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ABSTRACT

This report presents findings of a study of instruments used in the identification of gifted and talented students. The study first examined the published literature, both standardized and locally developed identification instruments and procedures, and strategies used to identify underserved populations. These data were catalogued in the National Repository computer database. The study then reviewed standardized instruments using the "Scale for the Evaluation of Gifted Identification Instruments" for each construct of giftedness named by schools and these reviews were entered into the database. A review of identification procedures led to the compilation of standards for identification. Finally, data were collected on three locally developed instruments with potential for providing unique types of data for screening and identifying talent: the "Diet Cola Test" (better for program evaluation than identification); the "Peer Referral Form" (high reliability and useful with Hispanic populations); and the "Teacher Search List" (reliable in assessing middle school students). Among seven appendices are the database order form, sample database output, a listing of instruments reviewed, the "Scale for the Evaluation of Gifted Identification Instruments" and the "Peer Referral Form." Contains 102 references. (DB)

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THE NATIONAL RESEARCH CENTER ON THE GIFTED AND TALENTED

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Instruments Used in the Identification of Gifted and Talented Students

Carolyn M. Callahan
Scott L. Hunsaker
Cheryll M. Adams
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Charlottesville, Virginia

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THE NATIONAL RESEARCH CENTER ON THE GIFTED AND TALENTED

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Instruments Used in the Identification of Gifted and Talented Students[*]

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ABSTRACT

The study of instruments used in the identification of gifted and talented students had multiple facets. First, published literature, standardized and locally developed identification instruments and procedures, and strategies used to identify underserved populations were collected and catalogued in a computer database. Then standardized instruments were reviewed using the *Scale for the Evaluation of Gifted Identification Instruments* for each construct of giftedness that schools named as an area in which they identified gifted students. These reviews were also entered in the database. The review of identification procedures led to the compilation of standards for identification. In addition, descriptions of school systems from this sample which exhibited innovative, exemplary practice and a selected group of innovative Javits projects were described in a monograph entitled *Contexts for Promise: Noteworthy Practices and Innovations in the Identification of Gifted Students.*

Finally, data were collected on three locally developed instruments with potential for providing unique types of data for screening and identifying talent. The first instrument, the *Diet Cola Test*, was found to be reliable for group assessment purposes and useful as a program evaluation tool rather than as an identification instrument. The second instrument, a *Peer Referral Form*, was found to have high reliability and exhibited validity as recommended for a nomination form in the screening of Hispanic populations. Finally, the *Teacher Search List* was found to be reliably used by teachers in assessing middle school students.

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[*] This report is first of two technical reports which summarize the research project entitled "Investigations Into Instruments Used in the Identification of Gifted Students and the Evaluation of Gifted Programs."

Instruments Used in the Identification of Gifted and Talented Students*

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EXECUTIVE SUMMARY

The goals of the Identification and Evaluation Project conducted by The National Research Center on the Gifted and Talented (NRC/GT) at the University of Virginia were (a) to identify current practices in identifying gifted students and in evaluating gifted programs; (b) to collect relevant data on assessment instruments; (c) to evaluate those instruments using standards established by the measurement field; and (d) to identify promising practices in identification and evaluation. The first stage of the project was the establishment of a National Repository for Instruments and Strategies Used in the Identification and Evaluation of Gifted Programs. The second phase involved reviewing available data, including reliability and validity data, on identification and evaluation instruments in the Repository, and rating the instruments on their appropriateness for specific purposes. During the third phase of the project we investigated the effectiveness of promising non-published identification instruments. Studies of evaluation designs and the impact of evaluation practices on the utilization of evaluation findings were conducted concurrently and are described in a separate report.

Overview of the Total Project

The results of the project are presented in two separate reports. This technical report includes only research relating to identification. The evaluation collections and studies are reported in *Instruments and Evaluation Designs Used in Gifted Programs*. In a separate publication, practices for identifying students from at-risk populations were identified from entries in our data bank and the model projects funded through the Jacob K. Javits Gifted and Talented Students Education Act program. Descriptions of these practices were compiled into a monograph, *Contexts for Promise: Noteworthy Practices in the Identification of Gifted Students* (Callahan, Tomlinson, & Pizzat, n.d.).

The initial focus of our investigation emphasized collecting and evaluating extant identification and evaluation literature, instruments, systems, and designs. The major research questions of the identification aspect of the study included: What are the most commonly used instruments in identifying gifted and talented students? What instruments are used for identifying gifted and talented students according to specific definitions and conceptions of giftedness? What is the reliability and validity evidence for these instruments, and is that evidence sufficient to justify their use with given definitions of giftedness and for identifying underserved populations?

---

* This report is first of two technical reports which summarize the research project entitled "Investigations Into Instruments Used in the Identification of Gifted Students and the Evaluation of Gifted Programs."

Similar questions were posed regarding evaluation instruments and designs: What instruments are the most commonly used in the evaluation of gifted students and programs? What are the reliability and validity of these instruments in assessing goals and objectives common to gifted programs? What instruments (especially non-traditional and product-oriented instruments) are used to evaluate programs for the gifted and talented? Which evaluation designs or which characteristics of evaluation designs yield useful evidence in program development and modification?

During the second stage of this investigation, three non-published instruments potentially useful in identifying underserved gifted were selected for further investigation of their psychometric properties. The major research questions in this stage of the study were: What are the reliability and validity of each of these instruments? How effective are these instruments in identifying underserved populations of gifted students? In each case, we investigated the effectiveness of instruments relative to particular definitions of giftedness or the particular stated outcome goals of gifted programs.

In preparing the monograph on promising practices (see Callahan, Tomlinson, & Pizzat, n.d.), the following questions were used as guides: Does this school system offer a set of innovative practices with documented evidence of effectiveness for identifying the underserved gifted? Do these systems used in identifying typically underserved gifted and talented students result in the identification of students who have special talents and needs?

The Investigation of Identification Instruments

The first step in the present study was to gather as many instruments and identification strategies as possible. The process was structured to gather information on both standardized and locally developed instruments and to identify state and local procedures for identification. Special efforts were made to identify instruments and strategies used in the identification of minority, economically disadvantaged, non-English speaking, and handicapped gifted students and in evaluating programs for these students.

Database searches were conducted across Educational Resources Information Center (ERIC), PsycLIT (the computerized version of *Psychological Index*), *Dissertation Abstracts International*, and VIRGO (the University of Virginia computerized card catalogue system). Search terms included gifted, ratings, scales, reliability, validity, tests, measurements, identification, evaluation, and utilization, and these terms were used singly or in combination as appropriate. Each search yielded a list of potential resources which were reviewed for information on the state of the art in identification, information on use of particular instruments or strategies for identification, and information on reliability and validity.

Information from the resources listed above was compiled into seven databases within the National Repository. The computer databases cover three categories of information: bibliographic entries, standardized instrument reviews and use, and locally developed materials. The bibliographic databases contain abstracts of published reviews of standardized instruments, abstracts of articles about the use of standardized instruments in identification, abstracts of articles about particular issues in identification (e.g., underserved populations). The standardized instrument databases include listings of the ways in which published instruments are used and reviews of the instruments on NRC/GT developed scales. The local instrument databases include listings of a collection of identification instruments developed and used at the local school level, but not published.

The staff of the project gathered all available data from the printed literature and from the survey responses on the reliability, validity, examinee appropriateness, norms, usability, teaching feedback, and ethical propriety of the instruments which were identified by school systems or the literature review. These technical data have been used to rate each instrument by means of a model rating scale developed by project staff. These ratings were also entered into the database. The project staff also reviewed all entries drawn from ERIC, the journal articles, and other sources on tests published between 1980 and 1990. These data have been condensed and entered into the databases.

Reliability studies were completed on a peer nomination form (*Peer Referral Form*), a test for identifying specific academic talent in science (*Diet Cola Test*), and two teacher rating scales (*Teacher Search List*). All these instruments were found to be sufficiently reliable for group use, though one rating scale was found reliable only with upper elementary and intermediate level students. The science scale was not sufficiently reliable for individual assessments. Preliminary validity evidence suggests that the science scale is more valid for program outcome assessment, and that the peer assessment tool has potential for use in identifying Hispanic students. Neither instrument discriminated among different cultural groups.

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Instruments Used in the Identification of Gifted and Talented Students

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CHAPTER 1: Introduction to the National Repository

The goals of the Identification and Evaluation Project conducted by The National Research Center on the Gifted and Talented (NRC/GT) at the University of Virginia were (a) to identify current practices in identifying gifted students and in evaluating gifted programs, (b) to collect relevant data on assessment instruments, (c) to evaluate those instruments using standards established by the measurement field, and (d) to identify promising practices in identification and evaluation. The first stage of the project was the establishment of a National Repository for Instruments and Strategies Used in the Identification and Evaluation of Gifted Students Programs. The second phase involved reviewing available data, including reliability and validity data, on identification and evaluation instruments in the Repository and rating the instruments on their appropriateness for specific purposes. During the third phase we investigated the effectiveness of promising non-published identification instruments. Studies of evaluation designs and the impact of evaluation practices on the utilization of evaluation findings were conducted concurrently and are described in separate publication, *Instruments and Evaluation Designs Used in Gifted Programs.* Finally, promising innovative practices for identifying students from at-risk populations were identified from entries in our data bank and the model projects funded through the Jacob K. Javits Gifted and Talented Education Act program. Descriptions of these practices were compiled into a separate monograph, *Contexts for Promise: Noteworthy Practices in the Identification of Gifted Students* (Callahan, Tomlinson, & Pizzat, n.d.).

The initial focus of our investigation emphasized collecting and evaluating extant identification and evaluation literature, instruments, systems, and designs. The major research questions posed for the identification aspect of the study included: What are the most commonly used instruments in identifying gifted and talented students? What instruments are used for identifying gifted and talented students according to specific definitions and conceptions of giftedness? What evidence is there of the reliability and validity of these instruments, and is that evidence sufficient to justify their use with given definitions of giftedness and for identifying underserved populations?

Similar questions were posed regarding evaluation instruments and designs: What instruments are most commonly used in the evaluation of gifted students and programs? What are the reliability and validity of these instruments in assessing goals and objectives common to gifted programs? What instruments (especially non-traditional and product-oriented instruments) are used to evaluate programs for the gifted and talented? Which evaluation designs or which characteristics of evaluation designs yield useful evidence in program development and modification?

During the second stage of this investigation, three non-published specific instruments potentially useful in identifying underserved gifted were selected for further investigation of their psychometric properties. The major research questions in this stage of the study were: What are the reliability and validity of each of these instruments? How effective are these instruments in identifying underserved populations of gifted students? In each case, we investigated the effectiveness of instruments relative to particular definitions of giftedness or the particular stated outcome goals of gifted programs.

In preparing the monograph on promising practices, we sought to identify school systems using identification procedures with documented evidence of effectiveness for identifying the underserved gifted. Procedures used to identify typically underserved gifted and talented students which resulted in the identification of students with special talents and needs and with a match between identification and programming were included in the monograph.

Historical Perspective of the Identification Project

A previous collection of identification instruments completed by the Educational Improvement Center (EIC) was limited only to identification and classification of instruments and did not include reviews of the instruments according to the gifted construct assumed by users of the instruments (Alvino, McDonnel, & Richert, 1981). General lists of instruments presented in most textbooks are most seriously deficient in their lack of evaluation of the reliability and validity of the instruments for *specific* gifted constructs, and many instruments with face validity have been included. Lists and evaluations of tests such as those provided in the *Mental Measurements Yearbook*, *Tests in Print*, and *Tests* fail to serve the purposes described above for several reasons. First, such reviews are directed at use by general audiences and for purposes other than the identification of the gifted or gifted program evaluation. They often fail to address the appropriateness of these instruments for the specialized purposes of identifying gifted and talented students or for evaluating the goals and objectives of programs designed to serve such students. Second, instruments not published and commercially distributed are typically not included in the collections. Thus, locally developed instruments used in portfolio reviews, audition ratings, evaluation of student products, etc. would not be included, leaving a major gap in information which provides advice on the availability and quality of such instruments.

Listings and reviews of identification instruments such as those provided by the study at the Educational Improvement Center and various textbooks also have relied largely on established tests or publishers to provide information on available tests. These sources generally limited their categorization to the traditional listings of types of giftedness (intellectual, specific academic ability, creativity, leadership, and visual and performing arts) and do not evaluate of their effectiveness for identifying specific attributes or use within specific populations.

The National Repository for Instruments and Strategies Used in the Identification and Evaluation of Gifted Programs is distinctive in several ways. Reviews of instruments focus on the reliability and validity of the instruments as they are used specifically in programs for the gifted; that is, the focus is on specific constructs of giftedness used to identify gifted students (identification) or on specific outcomes or goals set for gifted programs (evaluation). Further, the reviews examine the degree to which specific attributes are measured within those contexts and the degree to which the instruments are useful in identifying specific sub-populations of gifted students when used with specific systems of identification.

Report Overview

Because different portions of the project had different methodologies, each chapter of this report centers on one aspect of the study. This chapter presents the establishment of the National Repository. Chapter 2 presents the review of current literature and identification practices based on documents submitted to the National Repository. Chapter 3 includes information on the reliability and validity of selected locally developed identification instruments. The findings of the evaluation utilization study and the review of current evaluation literature and practices are presented in a separate monograph entitled *Instruments and Evaluation Designs Used in Gifted Programs.*

Establishment of the National Repository

Methodology

Mailings

To gather as many instruments, identification strategies, and evaluation designs as possible, we designed a process to gather information on both standardized and locally developed instruments, and to identify state and local evaluation designs and systems for identification. Specific efforts were made to identify instruments and strategies which had been used in the identification of minority, economically disadvantaged, non-English speaking, and handicapped gifted students and in evaluating programs for these students.

Four strategies were employed to collect the instruments, systems, and designs which have been used for program evaluation and student identification at the national, state, regional, and local levels. First, a letter requesting all state criteria used in identification systems, state recommended identification instruments, state-wide evaluation reports, and evaluation instruments was sent to each official in the state departments of education who had been designated (as of Fall, 1990) as having responsibility for gifted and talented programs. These individuals were asked to supply copies of any identification or evaluation instruments being used on a state, regional, and/or local level, or to provide a list of district level personnel who could be contacted for such information. They were asked to furnish the name of the developer of the instrument, information on how the instrument was used, who used it (e.g., psychologist, teacher, evaluator), and how data were analyzed. State officials were advised that they could submit state guidelines, evaluation reports or other documents from which we would glean the necessary information if that were more convenient.

Next, Collaborative School Districts (a CSD is a school district that specifically agreed to work on NRC/GT projects) were asked to provide any instruments used in identifying gifted students, a description of identification procedures used, demographic information on students selected, and copies of any evaluations of their programs or projects in gifted education. They were also asked the name of the instrument developer and the uses of the instrument (e.g., identification, evaluation). We also asked that, whenever possible, the name of the evaluator be provided with evaluation reports.

A similar letter and form were sent to approximately 5,000 school districts across the United States. Addresses for these districts were obtained from an educational database firm. Where possible, we delivered the letters at state conferences (Florida, Iowa, and Virginia), through state association mailings (Texas), or through state gifted coordinators (Colorado and Arizona).

We recognized, of course, that districts might not be comfortable with their current identification procedures or instruments, or districts might realize that they didn't truly abide by stated procedures or state regulations, and therefore, might be reluctant to respond accurately (or at all) to the survey. We attempted to avoid bias that might arise in the responses in two ways. First, districts were assured that information would be strictly confidential and we would not reveal names of districts in our reporting of data without the school district's permission. Second, our survey clearly emphasized that we were interested in all data about instruments and surveys, including instruments or systems which didn't seem to work as intended. We stressed the importance of learning from the things that do not function as expected, as well as learning from the things that do work. Requests concerning the value of each instrument also sought respondent information on the positive and negative aspects of the instruments in general as well as information on identifying students from specific underserved populations. Finally, a random sample of non-respondents was contacted by follow-up letter to determine whether there had been a systematic response bias.

All contacts were asked specifically to indicate instruments, strategies, and data sources which they believed had been particularly useful in identifying minority, economically disadvantaged, underachieving, non-English speaking, and/or handicapped gifted students. The Council for Exceptional Children and state department personnel were asked for lists of institutions which specifically serve individuals who are blind, hearing impaired, or with other handicapping conditions. These institutions were contacted specifically and directly. In addition, all individuals contacted were asked for program evaluation instruments, including process and product/performance ratings as well as standardized tests.

Announcements

Professional organizations, journals and state associations through which it would be appropriate to make requests for information were identified, and specifically tailored announcements and letters were sent to each association and journal. In addition, announcements were included in the conference programs and/or registration packets at the annual meetings of the National Association for Gifted Children and the American Evaluation Association.

Responses

The mailings and announcements yielded responses containing identification information from 542 individual school districts. An additional 65 school districts responded that they would have liked to forward materials, but could not do so because the program had recently been cut or was undergoing extensive changes. A random sample of 140 non-responding CSDs and 100 additional non-responding local education agencies (LEAs), but not CSDs was sent a questionnaire asking why they had not responded. Of these, 45 CSDs and 44 LEAs returned the questionnaire.

Table 1 summarizes the reasons they provided for not responding. The number of respondents indicating that they do not have programs is of interest because the names of contacts in school districts were obtained from the database *only* if they were listed as a coordinator of gifted programs. Because many of these districts indicated that the program had been terminated only recently, we were obviously limited in our sampling by current program instability. The responses indicating limited resources, transitional, inadequate, and new programs might indicate a dissatisfaction with programs as they currently exist and an accompanying effort to change them, restrictions on resources due to the current economic situations in schools, or changes resulting from the heterogeneous grouping movement within public education.

New file materials continue to arrive and are added to the data bank as they are received. Follow-up letters seeking additional information have been necessary for nearly every district.

Reviews of the Literature

Database searches were conducted across Educational Resources Information Center (ERIC), PsycLIT (the computerized version of *Psychological Index*), *Dissertation Abstracts International*, and VIRGO (the University of Virginia computerized card catalogue system). Search terms included gifted, ratings, scales, reliability, validity, tests, measurements, identification, evaluation, and utilization, and these terms were used singly or in combination as appropriate. Each search yielded a list of potential resources which were reviewed for information on the state of the art in identification or evaluation (particularly evaluation utilization), information on use of particular instruments or strategies for identification or evaluation, and information on reliability and validity.

The initial search yielded 375 documents including approximately 174 journal articles, 16 books, 37 dissertations, and 120 ERIC documents. In some cases dissertations were obtained directly from the authors. Large ERIC documents were reviewed on microfiche with copies made of relevant sections only. Abstracts of each document were prepared by staff focusing particularly on either test review information or usefulness in identifying underserved gifted students.

Table 1

Content Analysis of Reasons for not Submitting Information to the Databases (*N* = 89)

Reason Given	*n*	%
Non-existent Program	29	33
Resource Limitations	19	21
Transitional Program	16	18
Non-unique Methods	15	17
Inadequate Program	9	10
New Program	6	7
No Program Evaluation	6	7
Just Don't Want to	6	7
Working on Another Research Project	5	6
Lost/Didn't Receive Request	4	5
Other	5	6

Note. Respondents sometimes indicated more than one reason for not responding.

The information compiled from the resources listed above yielded seven databases on identification as part of the National Repository. The computer databases cover three categories of information: bibliographic entries, standardized instrument reviews and use, and locally developed materials. The bibliographic databases contain abstracts of published reviews of standardized instruments, abstracts of articles about the use of standardized instruments in identification, and abstracts of articles about particular issues in identification (e.g., underserved populations). The standardized instrument databases include listings of the ways in which published instruments are used (see Categorizing and Cataloging Identification Instruments below) and reviews of the instruments on *The Scale for Evaluating Gifted Identification Instruments* (*SEGII*), a scale developed by NRC/GT staff. The local instrument databases include listings of a collection of identification instruments developed and used at the local school level but not published. Within each database, the entries are further divided into two groups—those we have permission to share with the public and those we do not. A complete list of the identification database names, content descriptions, and number of entries appears as Table 2. Full descriptions of the ways in which entries were made in databases and fuller description of the databases are available upon request. The particular categories were created in order to facilitate searches for information by project staff and ultimately by educators, psychologists, and parents seeking information from the databases. While a particular article might relate to more than one category, it was classified by the dominant theme of the article.

A mailing was sent to all contributors of locally developed instruments asking for permission to release these materials. Only materials from school districts that have given permission for distribution are included in the database used to fill requests for local instruments, although all instruments were included when analyses of the data were conducted for our report. Any local instrument released also contains the name and address of a contact person in the district which developed the instrument. A copy of the order form used to obtain database information is included in Appendix A.

Categorizing and Cataloging Identification Instruments

Establishing Database Categories

A coding guide for recording individual school definitions of giftedness, types of instruments used, respondents, etc. was developed by project staff. Definitional categories were based on a review of current textbooks and journal articles on giftedness and intelligence. Types of instruments, respondents, gifted constructs, etc. began as a list of traditional categories from the measurement and gifted fields and were revised as instruments were reviewed. Several categories were sub-divided (e.g., creativity was split into creativity—ideation and creativity—problem solving as it became clear that both instruments and current theory differentiated between these constructs. A complete listing of categories is found in Figure 1. This guide allowed us to categorize definitions of giftedness used in the identification *process* (e.g., United States Office of Education definition [USOE], Renzulli's Three-Ring Definition, Structure of the Intellect definition), the respondent, the type of instrument (checklist, standardized instrument), the underlying gifted construct, the grade level at which the instrument was used. Frequency counts of definition, constructs, published instruments, and underserved populations were conducted, and are reported in Chapter 3 of this document.

Table 2

Summary of Databases on the Identification of Gifted Students

Database Name	Description of Contents	Number of Entries*
IDREVIEW	published reviews of identification instruments	201
IDISSUES	articles and papers which address specific issues in identification of gifted students (e.g., underserved populations)	152
IDARTICLES	articles and papers which address use(s) of particular identification instruments (e.g., using the WISC-R in low SES populations)	149
IDLOCAL	identification instruments developed and used by local school districts	1,762
SEGII	reviews of published identification instruments on the standard NRC/GT scale	350
PUB	records of the use of standardized identification instruments by local school districts	217
IDSTATE	contents of state department of education documents	26

* As of 3/1/93.

Parallel procedures were used to code and enter information on articles, books, test reviews, chapters, and other information contained in the databases. These procedures are documented in *The Revised Ultimate National Research Center on the Gifted and Talented Guidebook (Version 4) Files and Databases of the National Repository of Identification and Evaluation Instruments* which is available upon request. An abridged version of a sample database output based on a request for articles on identification of the African-American students in the category of general intellectual ability is included in Appendix B.

Assessing the Psychometric Properties of Published Instruments

The second line of investigation focused on reviewing published instruments which were either cited in journal articles reviewed or identified by school districts. This phase was subdivided into two parts.

Initially, the staff gathered all available data from the printed literature and from the school division survey responses on the reliability, validity, examinee appropriateness, norms, usability, teaching feedback, and ethical propriety of the instruments.

Category: General Definition

General IQ
United States Office of Education (USOE)
Three-Ring
Information Processing
Multiple Intelligences
Tannenbaum
Structure of the Intellect
Triarchic Theory
Other
Not Available/Applicable

Category: Gifted Construct

General Intellectual Ability
Specific Intellectual Abilities
General Academic Ability
Verbal/Linguistic Ability
Mathematical/Logical Ability
Scientific Aptitude
Sculpting Ability
Photography Ability
Other Visual Arts Ability
Music Performance Ability—Voice
Music Performance Ability—Instrumental
Music Composition Ability
Dance Ability
Acting Ability
Painting/Drawing Ability
Other Performing Arts Ability
Vocational Education/Practical Arts Ability
Inter/Intra-personal Ability/Leadership/Psycho-Social Ability
Creativity: Ideation
Creativity: Problem Solving
Task Commitment/Motivation
Psychomotor/Bodily-Kinesthetic Ability

Category: Ethnic/Minority Considerations

African-American
Hispanic-American
Asian-American
Native American
Polynesian
Racial/Ethnic Minorities—General
Other Ethnic/Minority Groups

(*figure continues*)

Figure 1. Published instruments: Categories and specific classification scheme.

Category: Language Considerations

Limited English Speaking

Category: Population Considerations

Urban
Suburban
Rural

Category: Socio-economic Considerations

Low SES

Category: General Considerations

Female
Male

Category: Handicapped Considerations

Learning Disabled
Hearing Impaired
Visually Impaired
Physically Challenged
General Handicapped

Category: Underachievement

(*continued*)

Figure 1. Published instruments: Categories and specific classification scheme.

These technical data were used to rate each published instrument using a model rating scale developed by project staff, but based on earlier work done by the Evaluation Technologies Program of the Center for the Study of Education and the Humanizing Learning Program of Research for Better Schools, Inc. in their series of test evaluations (Hoepfner et al., 1976; Hoepfner et al., 1972; Hoepfner, Stern, & Nummedal, 1971). The existing rating scale was modified to reflect the specific uses to which these instruments have been put—identification using a specific construct or definition of giftedness. The measurement standards of the *Standards for Evaluations of Educational Programs, Projects and Materials* (Joint Committee on Standards for Educational Evaluation, 1981), the *Standards for Educational and Psychological Testing* (American Educational Research Association, American Psychological Association, and National Council on Measurement in Education, 1985), and *Guidelines for Test Use* (Brown, 1980) were used in developing the final tool for assessing the instruments. This tool, the *Scale for Evaluating Gifted Identification Instruments (SEGII)*, and relevant technical data are described in full detail in Callahan, Lundberg, & Hunsaker, (1993). The technical manual for the *Scale for the Evaluation of Gifted Identification Instruments* is found in Appendix C; a copy of the instrument is found in Appendix D; and interrater agreement percentages are included in Appendix E.

For each published instrument listed in the Repository, we identified each definition and construct which school districts named as the focus in the use of that instrument. For each construct named, the instrument was reviewed with that construct as a focus of the review. Hence, any particular instrument might be rated once, twice, or several times. A total of 78 tests have been reviewed. Appendix F contains a complete listing of the reviews by construct and instrument.

Local instruments were also recorded by definition and construct of giftedness assessed, by type of instrument, population assessed, etc. Although many instruments were provided to the NRC/GT, only one school district provided any information on the reliability and validity of the instrument. Our guidelines for rating instruments were based on the judgement that instruments lacking evidence of reliability and validity could not be recommended, and hence, would not be reviewed further.

The staff of the project also reviewed entries from ERIC, journal articles, and other sources on tests. All of these data on published instrument reviews, which can be accessed in the IDREVIEW and IDARTICLE databases, have been condensed.

Importance of This Repository

Appropriate program development and modification is based on the collection of valid and useful data on the functioning of a program. Administrators of programs for the gifted have lacked access to instruments which have been validated or even demonstrated to be reliable for measuring most components of their programs. The collection of instruments in a central repository and an evaluation of these instruments by individuals with expertise in evaluation, psychometrics, and gifted education is long overdue in the field of gifted education. Many districts have struggled with the search for such instruments; some have made initial development efforts; some have collected some data on the effectiveness of instruments. The National Repository information provides more general access to a wider range of information by school district personnel.

The purpose of the databases is to allow practitioners to summon information on instruments school districts are using to assess various constructs of giftedness, to access information on the qualities of particular instruments, or to allow access to what other districts are doing to identify particular underserved groups of gifted students. An abridged sample of response to a request for a search is presented in Appendix B.

CHAPTER 2: The Literature on Recommended Practices in Identification and the Current Practice

A review of the practices recommended in the literature by experts on gifted education was used as a basis for making comparisons between "ideal" practices and the "actual" practices which were reflected in the information on identification practices and instruments submitted by school districts to the National Repository.

As conceptions of intelligence and ability have evolved, expanded definitions of giftedness have come to gain wider acceptance. Experts in gifted education accordingly have provided recommendations so that assessment practices in the identification of gifted children could keep pace. The literature review which follows focuses on recommendations made over the last 15 years. These recommended practices appeared consistently in the literature, with rare refutation. Specific references supporting the recommendations are cited within each section.

Broadened Conceptions of Giftedness

To ensure that gifted programs better serve their population, it is important for educators to select a well-defined concept of giftedness and to use that concept to determine identification procedures (Kontos, Carter, Ormrod, & Cooney, 1983). Currently, many definitions of giftedness exist. Nearly all current conceptions of intellectual functioning and giftedness go beyond a narrow concept of intellectual ability as a unitary trait measured by traditional intelligence tests. For example, Sternberg (1986) identified analytic, synthetic, and practical intelligences as distinct areas of cognitive functioning in which individuals may excel; Gardner (1983) posited seven intelligences (linguistic, logical, mathematical, spatial, musical, interpersonal, intrapersonal, and bodily kinesthetic).

Not only has the conception of intelligence expanded, so has the conception of giftedness. Once viewed as an exclusive domain of the "intellect" and traditionally associated with excelling across many school-related domains, current definitions have explored extending to domains outside of school (e.g., Renzulli's Three-Ring definition—above average ability, creativity, and task commitment, 1988) and outside of the traditional academics (e.g., the USOE definition—general intellectual ability, specific academic ability, creative or productive thinking, leadership ability, visual and performing arts, and psychomotor ability, Marland, 1972) and to looking for specific abilities (e.g., mathematical talent, Stanley & Benbow, 1986).

Some current definitions include nonintellective as well as cognitive factors. For example, Renzulli (1988) considers above average academic ability, creativity, and task commitment and Tannenbaum (1986) incorporates superior general intellect and personal environmental factors into his definition. The traits within each definition overlap to denote "giftedness." Gardner's Multiple Intelligence Theory (1983) also includes nonintellective factors, such as interpersonal skills and intrapersonal knowledge; however, in Gardner's framework, these factors are seen as being expressed as independent domains. Developments in the study of cognition and the expansion of conceptions of giftedness clearly suggest that school personnel need to re-think identification procedures which are based primarily on intellectual assessment using only traditional measures of intelligence to see whether such identification measures are truly consistent with the gifted populations they intend to serve.

Using Multiple Criteria

The recommendation that multiple criteria be used in the identification of the gifted is pervasive in the literature (Ebmeier & Schmulbach, 1989; Frasier, 1987; Kirschenbaum, 1983; Roach & Bell, 1986). Use of multiple criteria in the decision-making process is characterized by the use of both standardized and non-standardized instruments, process and performance indicators, and multiple sources of data (e.g., student, teacher, parent, or peers). This recommendation has found its way into the policy statements of 32 states (Houseman, 1987). Several studies have reported success in the use of multiple criteria (Dirks & Quarfoth, 1981; Ehrlich, 1986). A single measure/single criterion is still used in many instances for selecting students for special programs for the gifted (e.g., Hoge, 1989).

Unfortunately, the use of multiple criteria can be misinterpreted as "multiple hurdles." The intent of the use of multiple criteria is to give professionals the most complete picture of the student and to allow many ways for a student to exhibit talent. Its intention is not to create a situation in which students must meet *all* criteria in order to be considered "gifted." To ensure more reasonable application, this recommendation might be better phrased as a recommendation to use alternative pathways to identification with multiple sources of data used as part of the decision-making process.

Unique Instrumentation for Different Areas of Giftedness

The literature (e.g., Culross, 1989; Frasier, 1987; Goldberg, 1986; Johnsen, 1986) supports defining and serving talents across a diverse spectrum. Experts recommend that school district personnel seek out those identification strategies appropriate for the specific domains the school district has elected to serve (Gallagher, 1985; Platow, 1984; Renzulli, Reis, & Smith, 1981). That is, if a school district purports to measure general intellectual ability, specific academic ability or achievement, music, and dance, then there should be separate instruments and procedures should be considered for each of these areas.

Though this recommendation is logical, its implementation is hampered by slow development in the assessment field. Only general intellectual ability and some academic talent areas have been well researched and defined, resulting in related standardized test instruments having evidence of acceptable levels of reliability and validity. Other commonly cited areas of giftedness, such as leadership, creative or productive thinking, and abilities in the arts remain less clearly defined and measurement of their parameters relatively unspecified (Goldberg, 1986; Johnsen, 1986). Alternative assessment tools and strategies for assessing independent domains of giftedness have been discussed in the literature for many years. As early as 1981, Treffinger, Renzulli, and Feldhusen recommended including creativity profiles and products, and Khatena in 1982 suggested auditions to assess visual and performing arts.

Despite the arguments that assessments of less traditional aspects of giftedness do not lend themselves readily to standardization and quantification (Goldberg, 1986) and that assessments generally depend on some form of pooled judgments (Khatena, 1982), it is still imperative that any test, rating scale or other assessment tool have suitable evidence of reliability and validity for assessing the area of talent being considered. If there are differences in the underlying constructs of the ability necessary to create artistic products and scientific breakthroughs, the identification of talent in these domains must be distinct with both instrument selection and identification procedures based on the underlying concept of talent in that domain. There are no "one-size fits all" instruments.

Reliability and Validity of Construct

If no theoretically based definition of giftedness will fit all programs and circumstances (Roach & Bell, 1986), the criteria for the selection of gifted students must match the original rationale or definition of giftedness held by the school district (Hoge, 1989; Williams, 1988). The credibility of the identification decision-making process rests on the instruments and strategies that allow for reliable and valid measurement relative to the construct under consideration.

Most programs for the gifted continue to focus on general intellectual ability and specific academic areas (Johnsen, 1986). While tests of intelligence provide relatively objective, reliable, and valid measures of general intellectual ability in the sense of predicting general school achievement, they give little information about specific talents, even in the intellectual domain (Goldberg, 1986). Assessment using only traditional intelligence tests appears questionable for assessing across all the constructs within the broadened conception of giftedness and inappropriate for use in identifying ability in specific academic areas, the arts, creativity, or leadership.

Questions have been raised about the validity of instruments used for identification of giftedness across all definitions and components of giftedness, including the USOE definition. Studies examining the viability of assessing gifted children in the area of general intellectual ability, for example, have produced varying findings as to whether the instruments had a strong relationship to the construct being assessed (Carvajal & McKnab, 1990; Mather & Udall, 1985; O'Tuel, Ward, & Rawl, 1983). In another domain, that of creativity, Runco (1986) found that the assessments of the various constructs lack discriminate validity. Predictive validity related to gifted program performance has not been established for most instruments used in the identification of gifted students (O'Tuel, Ward, & Rawl, 1983). Further, intelligence, achievement, and creativity tests have failed in establishing predictive validity for adult success within the gifted population (Kirschenbaum, 1983). It behooves educators at all levels to examine the predictive validity of instruments used to identify gifted students.

Limitations of a Single Score Cut-Off Determination of Giftedness

The use of an arbitrarily rigid cut-off IQ score or summed matrix score as the basis of identification has been widely criticized in the literature (Chang, 1985; Culross, 1989; Ebmeier & Schmulbach, 1989; Frasier, 1987; Goldberg, 1986; Johnsen, 1986; Kirschenbaum, 1983; Renzulli & Delcourt, 1986; Treffinger, 1982c). Further, the score of an individual on a single instrument is best conceived as a range of scores, not a single point, due to errors in measurement (Kirschenbaum, 1983). Yet, many districts have used cutoff scores as the sole basis of identification either independently or because of the guidelines or policies of the state (Treffinger, 1982c). In some states, for example, to be eligible for a gifted program, the sole criterion a student must achieve is a minimum score on an intelligence test (Goldberg, 1986; Houseman, 1987). In some school districts, group standardized achievement test scores may be used as a cutoff in determining who enters the pool (Johnsen, 1986) for further screening.

While intelligence test and standardized achievement test scores are relatively stable and consistent scores, the use of these scores *rigidly* and *alone* as a criterion for identifying gifted students belies current theory that giftedness includes non-intellective factors, that giftedness may manifest itself through a variety of means of expression, and that giftedness may be domain specific. Intelligence tests are best regarded as reliable indicators of analytic skills which predict school achievement very accurately. They are useful as *part* of a full process of screening and identifying giftedness when giftedness is defined as a global construct predicting school achievement. Similarly, the use of a single achievement test score is flawed.

The use of intelligence and/or achievement test scores is appropriate when (a) the definition of giftedness matches the construct measured by the instrument, (b) the score is viewed as a band of scores incorporating the standard error of measurement of the test, and (c) the score is part of a full consideration of both cognitive and non-intellective factors contributing to giftedness.

Identification and Placement Based on Student Need

In some cases, the number of students accepted as gifted and talented has been determined by the number who can be accommodated by a particular school, class, or program (Goldberg, 1986; Johnsen, 1986). Very often, financial exigencies dictate the definition of giftedness and the criteria used by state and local school systems. Applying a percentage quota system means abandoning conceptual program standards and selection criteria, and jeopardizes the concept of fair selection (Fetterman, 1986). Treffinger (1982b) cautions against singling out a prespecified percentage of students. Instead, we should be concerned with defining and screening for the unique characteristics associated with our concept of giftedness.

Instruments for Underserved Populations

Special attention should be given to the different ways in which children from different cultures manifest behavioral aspects of giftedness (Frasier, 1987). No one set of standards can be applied fairly to all types of gifted students (Goldberg, 1986). Although efforts have been made to include children from all ethnic and racial minority groups in gifted programs, some claim that minority groups are still grossly underrepresented by approximately 30% to 70% (Richert, 1985a; Sapon-Shevin, 1987). In the NELS 88 sample (National Educational Longitudinal Study), minorities as a whole were not underrepresented, but Hispanic students were somewhat underrepresented and American Indian/Alaskan Native students were severely underrepresented. However, the participation rate of students from the lowest socioeconomic status (lowest 25% of the population) was only 3.2% (O'Connell-Ross, 1992).

A frequent explanation for low representation of children of poverty or children representing minority groups in gifted programs is performance below the cutoff score on standardized achievement or IQ tests which have led several experts to conclude that such tests may be culturally biased (Alvino, McDonnel, & Richert, 1981; Deschamp & Robson, 1984; Frasier, 1989; Harrington, 1982; Johnsen, 1986; Lundberg & Callahan, 1992; McKenzie, 1986). Many experts have concluded that nontraditional methods are more effective than traditional instruments for testing the underserved gifted student because the instruments typically used to assess intelligence or academic performance do not measure the different ways in which children of differing backgrounds may manifest gifted behaviors (Frasier, 1987; Masten, 1985; Ryan, 1983; Sisk, 1988). Unfortunately, the same instruments are used with and standards are applied to, the dominant, middle-class population as are applied to diverse, underserved populations (Goldberg, 1986).

CHAPTER 3: Analysis of the Database Entries

An important study on the use of identification instruments was conducted over ten years ago (Alvino, McDonnel, & Richert, 1981). Subsequently, Richert (1985b) reported on the aspect of that project which analyzed published tests in use at that time to identify gifted and talented youth in the United States. With the USOE definition as a basis for reviewing these tests, they found: (a) a misunderstanding or lack of application of the federal definition in its broadest sense; (b) uses of instruments to assess constructs not originally intended and for populations or abilities for which no validity evidence existed; (c) biased tests and procedures that screened out disadvantaged students; (d) multiple criteria combined in statistically unsound ways; and (e) instruments and procedures used at inappropriate stages of identification.

In view of the issues raised by Richert and the recommendations for improved practice given since that time, we set out to determine how published instruments currently are used in identifying gifted students.

Method

As part of the activity of The National Research Center on the Gifted and Talented (NRC/GT), researchers at the University of Virginia site conducted a comprehensive study of instruments used in gifted programs throughout the United States. To briefly review information from Chapter 1: Specific requests for information about instruments used in the identification of gifted students and the evaluation of gifted programs were sent to all the Collaborative School Districts associated with the NRC/GT. Mailings were sent to about 5,000 gifted program coordinators around the country based on a marketing mailing list. In addition, we searched databases such as ERIC, PsycLIT, and Dissertation Abstracts International for descriptions of local gifted programs. Finally, appeals were made to over fifty professional organizations such as the National Association for Gifted Children and the Association of Supervision and Curriculum Development through their journals and at their conventions. From these efforts, over 1,200 files were created, each focusing on materials from the responding district. When information was not complete, a follow-up letter was sent to the school district asking for clarification. The present study is based on information from the 551 files which were complete enough to allow comparison of specific instruments to definition.

Data Analysis

A classification system for recording individual components of a school's gifted identification system was developed based on survey texts in gifted education (e.g., Clark, 1988; Colangelo & Davis, 1991; Davis & Rimm, 1984; Tannenbaum, 1983). School documents were reviewed to identify definitions of giftedness. Then the journal articles collected in the search were reviewed and only new definitions were added. Similarly, we looked for listings of specific constructs associated with the definitions. For example, Renzulli's Three-Ring definition includes the constructs of above average ability in a specific domain; the USOE definition includes general intellectual ability, specific academic ability, creative or productive thinking, leadership ability, visual and performing arts, and psychomotor ability. Categories reflecting specific issues in identification were also created based on the literature review. For example, the low incidence of female participation in secondary programs in mathematics (e.g., SMPY) led us to look for special instruments or strategies that might be used to identify female talent in that domain. Information from each school district was recorded according to these categories. New categories and codes were created to better reflect the uses made of the instruments when a particular instrument or strategy did not fit the original classification scheme. The major categories and the specific classifications under each category are detailed in Figure 1 (p. 8).

Coding of definitions, constructs, and tests was completed by a staff member of the NRC/GT at The University of Virginia. A random sample of the codings was reviewed by other staff to clarify constructs and to verify accuracy. When differences in understanding were discovered, previously coded information was recoded. Ambiguous items were referred to the project staff for clarification and consensus in coding.

The first coding decision was to determine the definition of giftedness used by the school district and the constructs adopted under that definition. For example, if a school district used the USOE definition, we then determined which of the specific areas of giftedness it chose to serve. The next step was to match the instruments the school districts reported using with the construct of giftedness they had indicated in their definitions or other program documents. Finally, instruments used to provide additional information on special populations such as ethnic minorities or the disabled were coded. Only instruments available from a publishing house and with specific instructions for administration, scoring, and interpretation were considered "standardized published" assessments. Other instruments were not considered for the analysis reported in this section.

Results

Definitions

Table 3 illustrates the distribution of adoption of particular definitions of gifted and talented. The USOE definition was, by far, the most widely accepted definition of giftedness (48%), with IQ (11%), and Three-Ring definition (8%) as the other two widely utilized definitions in our respondent group. Nine districts adopted both the Three-Ring and USOE definitions. One district cited the Multiple Intelligence definition and one district reported basing its definition on the Structure of Intellect model of intelligence. No districts reported adopting the Information Processing, Triarchic, or Tannenbaum definitions which is probably not surprising given that these definitions are not frequently recommended in state guidelines (Houseman, 1987). Eighteen districts provided definitions not derived directly from the literature. For example, one district chose to use high academic achievement as its sole definition for giftedness. Four districts stated they used no definition of giftedness and 165 did not report a definition. Follow-up inquiries to these districts resulted in no further clarification. Several responded that they had provided all information available.

Table 3

Frequencies of Gifted Definitions Adopted ($N = 551$)

Definition	Frequency	%
USOE	267[a]	48
IQ	61	11
Three-Ring	43[a]	8
Multiple Intelligence	1	---
Structure of Intellect	1	---
Other	18	3
No definition	4	1

Note. [a]Nine of these districts use both the Three-Ring and USOE definitions.

USOE Definition

Table 4 presents a list of published instruments listed across the many different constructs which school districts considered under the USOE definition. While some of these constructs are normally associated with the components of this definition (general intellectual ability, specific academic abilities, creativity), some are unique to the ways in which school districts have operationalized the definition (task commitment).

The most frequently adopted construct is general intellectual ability. The instruments most often included in lists of tests to assess that construct were the *Wechsler Intelligence Scale for Children-Revised* (*WISC-R*)[1], *Otis-Lennon School Abilities Test* (*OLSAT*), *Cognitive Abilities Test* (*CogAT*), *Stanford-Binet Intelligence Scales-LM, Scale for Rating the Behavioral Characteristics of Superior Students* (*SRBCSS*)[2], and *Slosson Intelligence Test* (*SIT*). Although the *WISC-R* and *Stanford-Binet* were widely cited, they were most often used as secondary measures. They were most likely to be listed as a supplement used for border-line decisions or as assessments after initial screening with other group assessment tools. This finding was consistent across all definitions and constructs.

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[1] The WISC-R has been replaced by the *WISC-III* (as of 1993), when the *WISC* is noted, the school district is using the *WISC* (a very outdated instrument) not the *WISC-R*.

[2] Any reference to the *SRBCSS* refers to the scales published by Creative Learning Press and not to the many adaptations devised by school districts.

Table 4

Published Instruments as Used in Identification Based on Constructs Associated With the USOE Definition of Giftedness ($N = 267$)

	Constructs															
Instrument	GI	GA	MQ	VL	SC	SS	CI	CP	MU	AC	DA	PD	IP	PM	TC	SI
California Achievement Test	17	21	10	10	1	1	1		1			1		1	1	
Cognitive Abilities Test	42	4	5	5	2	1	2	1	2	1			1	2		
Group Inventory for Finding Interests		1					6	1	1	1		1				1
Iowa Tests of Basic Skills	13	43	19	17	7	6	1									
Kranz Talent Identification Instrument					3	2	1			1		3	3	2	2	2
Leiter International Performance Scale					7											
Metropolitan Achievement Test		10	4	3	4	2										
Otis-Lenon School Abilities Test	52	2	1	1	1	1		1	1			1	1	1		
SRBCSS[a]	29	25	4	6	3	3	31	2	7	6	2	5	18		20	1
Science Research Associates Achievement Test	6	17	7	7	3	2		1								
Slosson Intelligence Test	26		1	2	1		2	1								
Stanford Achievement Test	5	12	7	7	2	2	2						2			
Stanford Binet Intelligence Scale-LM	30	1	1				1	1								
Structure of Intellect Test	10	1	2	1			8	2	4	4		5	3	1		
Test of Cognitive Skills	19	1	1	1	1		2	1	1	1			1			
Test of Nonverbal Intelligence					7											
Torrance Tests of Creative Thinking-Figural					2						6		1	2		1
Wechsler Intelligence Scale-R	60	2	1	2	1	3	2									

GI = General Intellectual Ability
GA = General Academic Ability
MQ = Mathematical/Logical Ability
VL = Verbal/Linguistic Ability Arts Ability
SC = Scientific Aptitude
SS = Social Science Aptitude
CI = Creativity: Ideation
CP = Creativity: Problem Solving

MU = Musical Ability
AC = Acting Ability
DA = Dance Ability
PD = Painting/Drawing Ability
IP = Inter/Intra-personal Ability/Leadership/Psycho-Social
PM = Psychomotor Ability
TC = Task Commitment/Motivation
SI = Specific Intellectual Ability

Note. [a]Scales for Rating the Behavioral Characteristics of Superior Students.

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Instruments used to measure the academic constructs, the second most frequently adopted construct of the USOE definition, were the *Iowa Tests of Basic Skills* (*ITBS*), *California Achievement Test* (*CAT*), *SRBCSS*, *SRA Achievement Test* (*SRA*), and *Stanford Achievement Test* (*SAT*). Creativity was measured primarily by the *SRBCSS*, with a number of districts using the *Torrance Tests of Creative Thinking-Figural* (*TTCT-F*) and *Structure of Intellect* (*SOI*) tests. The visual and performing arts construct was measured primarily by the *SRBCSS*, followed by *SOI* tests and the *Kranz Talent Identification Instrument*. Finally, leadership was measured most often by the *SRBCSS*. Note that many districts still included psychomotor ability as part of the USOE definition, even though more recent versions of that definition have not included that dimension. Very few districts used published instruments to identify a specific intellectual aptitude, and many considered task commitment under the federal definition. The inclusion of the construct of task commitment may be explained in part by the nine districts who chose to use both the USOE and the Three-Ring definitions of giftedness.

While some districts provided a matrix or specific guidelines for weighting of specific assessment information, guidelines were too often indefinite to draw generalized conclusions regarding the relative weight given to specific instruments.

IQ

As expected, districts which adopted the IQ definition most often assessed the construct of general intellectual ability (Table 5). School districts claimed to measure general intellectual ability with instruments ranging from individualized intelligence tests (*WISC-R* and *Stanford-Binet*) to group general intelligence tests (*OLSAT*, *CogAT* and *Slosson*) to achievement tests (*ITBS*, *California Achievement Test* [*CAT*]), and rating scales (*SRBCSS*). These instruments are the same as those most frequently used to assess the USOE definition of giftedness. General intellectual ability was measured primarily by the *WISC-R*, *Stanford-Binet-LM*, *OLSAT*, *ITBS*, *SRBCSS*, *CogAT*, *CAT*, and *Slosson*. Although IQ is generally thought to consist of only the construct of general intellectual ability, many districts appeared to confuse this construct with specific academic ability or not recognize the distinction between aptitude and achievement as noted by their use of achievement tests to assess general intellectual ability. One possible explanation is that these districts, in attempts to broaden their definition of giftedness, may be attempting to employ multiple criteria in identification, but are not clear how to accomplish that goal.

Three-Ring

In districts adopting the Three-Ring definition, above average ability was most often measured as general intellectual ability using the *CogAT*, *WISC-R*, *OLSAT*, and *Slosson* (Table 6). Another above average ability construct used by school districts was general academic ability, measured most frequently by the *ITBS* and *SRBCSS*. Only a few districts attempted to evaluate above average ability in a specific academic area. Creativity was again assessed mainly with the *SRBCSS*. Finally, we noted the exclusive use of the *SRBCSS* to rate task commitment.

Underserved Populations

As expected, given the large number of school districts adopting the USOE definition of giftedness, the school districts noting special provisions for identifying underserved populations also reported adopting the USOE definition most frequently (Table 7). Surprisingly, in view of controversies over possible cultural bias, the IQ definition was second in preponderance among districts specifically attempting to identify underserved populations, followed by the Three-Ring definition.

Table 5

Published Instruments as Used in Identification Based on Constructs Associated With an IQ Definition of Giftedness (*N* = 61)

	Constructs								
Instrument	GI	GA	MQ	VL	SC	SS	CI	CP	VE
California Achievement	11	3							
Cognitive Abilities	11		1	1					
Iowa Tests of Basic Skills	15	1	1	1					
Kaufman-Assessment Battery for Children	8	2							
Keymath Diagnostic Arithmetic Test			2						
Otis-Lennon School Ability Test	17								
Peabody Individual Achievement Test	2	3							
Scales for Rating Behavioral Characteristics	13	2		1				2	1
Science Research Associates Achievement Test	5								1
Slosson Intelligence Test	10								
Structure of Intellect Learning Ability Test	4						1	1	
Stanford Achievement Test	5	3							
Stanford-Binet Intelligence Scale-LM	18	1							
Test of Cognitive Skills	9		1	1	1	1			
Torrance Test of Creative Thinking - Figural							1	1	
Wechsler Intelligence Scale for Children-Revised	24	1							
Woodcock-Johnson Psycho-Educational Battery		6							
Woodcock Reading Mastery Tests				2					

GI = General Intellectual Ability
GA = General Academic Ability
MQ = Mathematical/Logical Ability
VL = Verbal/Linguistic Ability
SC = Scientific Aptitude
SS = Social Science Aptitude
CI = Creativity: Ideation
CP = Creativity: Problem Solving
VEL = Vocational Education/Practical

Table 6

Published Instruments as Used in Identification Based on the Constructs Associated With the Three-Ring Definition of Giftedness (*N* = 43)

	Constructs									
Instrument	GI	GA	VL	MQ	SC	SS	CI	CP	TC	IP
California Achievement Test	2	4	2	2						
Cognitive Abilities Test	13	3	1	2			1			
Group Inventory for Finding Creative Talent							3			
Iowa Tests of Basic Scales	6	11	1	1	1	1	1			
Metropolitan Achievement Tests	5	4		1	1					
Otis-Lennon School Ability Test	9									
Scales for Rating Behavioral Characteristics of Superior Students	9	8	1				10		9	2
Slosson Intelligence Test	8									
Structure of Intellect Learning Abilities Test	2						3			
Stanford Achievement Test	1	62	2							
Torrance Tests of Creative Thinking - Figural							4			
Wechsler Intelligence Scales for Children	4						1	1		
Wechsler Intelligence Scale for Children-Revised	11									

GI = General Intellectual Ability
GA = General Academic Ability
VL = Verbal/Linguistic Ability
MQ = Mathematical/Logical Ability
SC = Scientific Aptitude
SS = Social Science Aptitude
CI = Creativity: Ideation
CP = Creativity: Problem Solving
TC = Task Commitment/Motivation
IP = Inter/Intra-personal Ability/Leadership/Psycho-Social

Table 7

Published Instruments Used for Underserved Populations

		Underserved Population										
Instrument	Construct	RE	AF	HI	NA	AS	LE	LO	HG	PC	LD	UN
ACER & University of Melbourne Music Evaluation	Visual & Performing Arts			x								
Barron-Welsh Art Scale	Visual & Performing Arts			x								
California Achievement Test	General Intellectual Ability	x	x	x		x	x	x	x		x	x
	General Intellectual Ability	x		x			x	x	x		x	x
	Specific Academic Abilities	x		x			x	x	x		x	x
	General Academic Ability	x										x
Christenson-Guilford Fluency Test	General Intellectual Ability									x		
Cognitive Ability Test	General Intellectual Ability	x	x		x		x	x	x		x	x
	Specific Academic Abilities	x					x	x	x			x
Cognitive Skills Assessment Battery	General Academic Ability	x									x	
	Visual & Performing Arts	x										
Columbia Mental Maturity Test	General Intellectual Ability			s					x			
Cornell Critical Thinking Test	General Intellectual Ability									x		
Comprehensive Test of Basic Skills	Specific Academic Abilities	x					x	x				
Developing Cognitive Abilities Test	Specific Academic Abilities		x	x	x			x				
	Creativity		x	x	x			x				
Drake Music Aptitude Test	Visual & Performing Arts			x								
Gifted and Talented Screening Form	General Intellectual Ability	x						x				
	Specific Academic Abilities	s						s				
	Creativity	x						x				
	Visual & Performing Arts	x						x				
	Inter/Intra-personal Ability/ Leadership/Psycho-Social Ability	x						x				
Gordon Musical Aptitude	Visual & Performing Arts			x								

(table continues)

RE = Racial/Ethnic Minorities Gen.
AF = African-American
HI = Hispanic-American
NA = Native American
AS = Asian-American
LE = Limited English Speaking

LO = Low SES
HG = Gen. Handicapped
PC = Physically Challenged
LD = Learning Disabled
UN = Underachievement

Table 7

Published Instruments Used for Underserved Populations *(continued)*

Instrument	Construct	RE	AF	HI	NA	AS	LE	LO	HG	PC	LD	UN
		Underserved Population										
Group Inventory for Finding Creative Talent	Specific Academic Abilities						x					
	Creativity					x						
Group Inventory for Finding Interests	Creativity					x						
Henmon-Nelson Intelligence Test	General Intellectual Ability			x								
Hiskey-Nebraska Test of Learning Aptitude	General Intellectual Ability									x		
Horn Art Inventory	Visual & Performing Arts				x							
Iowa Tests of Basic Skills	General Intellectual Ability	x	x	x			x	x	x			
	Specific Academic Abilities	x	x	x	x		x	x	x			x
Iowa Test of Musical Aptitude	Visual & Performing Arts			x								
Kaufman Achievement Battery for Children	General Intellectual Ability	x	x	x	x	x	x	x	x	x	x	x
	Specific Abilities								x			
	Creativity				x							
	Visual & Performing Arts									x		
Kranz Talent Identification Instrument	General Intellectual Ability	x										x
	Specific Academic Abilities	x										x
	Creativity	x										x
	Visual & Performing Arts	x										x
	Inter/Intra-personal Ability/ Leadership/Psycho-Social Ability	x										
Leiter International Performance Scale	General Intellectual Ability	x		x	x		x	x		x		
Lorge-Thorndike Intelligence Test	General Intellectual Ability			x								
Meier Art Test	Visual & Performing Arts				x							
Otis-Lennon Schools Ability Test	General Intellectual Ability	x	x	x			x	x	x		x	x
	Specific Academic Abilities	x						x	x			
Peabody Individual Achievement Test	General Intellectual Ability	x										
	Specific Academic Abilities	x										
	General Academic Ability	x										

(table continues)

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Table 7

Published Instruments Used for Underserved Populations *(continued)*

Instrument	Construct	Underserved Population										
		RE	AF	HI	NA	AS	LE	LO	HG	PC	LD	UN
Peabody Picture Vocabulary Test	General Intellectual Ability	x	x	x			x	x	x			
Pictorial Test of Intelligence	General Intellectual Ability									x		
Purdue Elementary Problem Solving Inventory	General Intellectual Ability									x		
Raven's Progressive Matrices	General Intellectual Ability	x					x	x	x			
	Creativity							x				
Raven's Standard Matrices	General Intellectual Ability				x							
Ross Test of Higher Cognitive Processes	General Intellectual Ability									x		
Scales for Rating Behavioral Characteristics of Superior Students	General Intellectual Ability	x		x		x	x	x		x	x	
	Specific Academic Abilities	x					x	x	x		x	x
	Creativity	x					x	x	x		x	x
	Visual & Performing Arts	x					x		x		x	
	Inter/Intra-personal Ability/ Leadership/Psycho-Social Ability	x	x		x	x	x		x	x		
	Task Commitment/Motivation	x										x
Science Research Associates Achievement Series	General Intellectual Ability											
	Specific Academic Abilities	x			x		x	x	x		x	x
Screening Assessment for Gifted Elementary Students	General Intellectual Ability									x		
	Specific Academic Abilities		x									
Seashore Measure of Musical Talents	Visual & Performing Arts			x								
Short Form Test of Academic Aptitude	General Intellectual Ability			x					x			
Slosson Intelligence Test	General Intellectual Ability	x	x	x			x	x	x	x	x	x
	Specific Academic Abilities	x					x	x				x

(table continues)

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Table 7

Published Instruments Used for Underserved Populations *(continued)*

Instrument	Construct	RE	AF	HI	NA	AS	LE	LO	HG	PC	LD	UN
Structure of Intelligence Learning Abilities Test	General Intellectual Ability	x						x				
	Specific Academic Abilities	x										
	Creativity	x										
	Inter/Intra-personal Ability/ Leadership/Psycho-Social Ability	x										
Stanford Achievement Test	General Intellectual Ability	x	x	x		x	x	x	x		x	
	Specific Academic Abilities	x		x	x		x	x	x		x	x
Stanford Binet Intelligence Scale-LM	General Intellectual Ability	x	x	x		x	x	x	x	x	x	x
	Specific Academic Abilities	x					x	x			x	
	Creativity	x					x	x			x	
Stanford Early School Achievement Test	General Intellectual Ability									x		
Tests of Creative Potential		x										
Test of Non-Verbal Intelligence	General Intellectual Ability	x					x	x	x			
Torrance Tests of Creative Thinking-Figural	General Intellectual Ability				x							
	Creativity	x	x				x	x	x		x	x
	Visual & Performing Arts											x
Torrance Tests of Creative Thinking-Verbal	Creativity		x	x								
Wechsler Adult Intelligence Scale-Revised	General Intellectual Ability		x									
Wechsler Intelligence Scale for Children-Revised	General Intellectual Ability	x				x	x	x				
	Specific Academic Abilities	x				x	x					
Woodcock-Johnson Psycho-Educational Battery	Specific Academic Abilities	x		x			x					
	Creativity	x		x			x					

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Most of the instruments reportedly employed by districts in the identification of students from underrepresented racial/ethnic groups were designed as measures of general intellectual aptitude. The *WISC-R* was the prevalent choice among districts across all three definitions. There appears to be a belief that individualized assessment tools are less culturally biased. Also surprising, assessment of specific academic ability, creativity, arts ability, and leadership was not as extensive. Little use is made of assessments designed to tap specific intellectual abilities. For specific ability, the instrument of choice was the *ITBS*, with *SRBCSS* following. The *SRBCSS* was also the major assessment device for evaluating creativity. For the Three-Ring constructs and IQ, few special testing provisions were made for assessing racial/ethnic students.

We found few special provisions in place with regard to the use of published instruments to identify students from specific racial/ethnic groups—other than the lack of their use. Seldom were considerations given to using individualized assessments as a primary screening for culturally different students, to developing or applying separate norms, or to taking potential cultural bias of standardized tests into account. However, the WISC-R was mentioned by a greater number of those making specific provisions for Hispanic students. Many standardized art and music assessment instruments were used to identify talented Native American students.

Special provisions for identifying students with limited-English speaking ability and low socio-economic status were largely subsumed under the USOE construct of general intellectual ability, measured for the most part by the *WISC-R*. The Stanford-Binet was also cited frequently. Again, few special provisions were made by districts using the IQ and Three-Ring definitions.

Most districts that described any special considerations for students with disabilities did so in a general way (e.g., "We take the environment of the child into consideration."). The major constructs measured were general intellectual ability and specific academic ability under the USOE definition. IQ tests were the primary instruments for assessing general intellectual ability. The ITBS and SRBCSS were the primary instruments for assessing specific academic aptitude.

It had been our intention to identify instruments used in identifying children with specific disabilities such as visual impairments and hearing impairments; however, responding districts sent information about specifics only for the physically challenged, the learning disabled, and underachievers. Even within these categories, little was being done with published instruments to assess giftedness. Perhaps this reflects perceived and/or accepted bias in standardized assessment tools, though it could as easily reflect schools' avoidance of considering gifted dimensions when other specific disabilities are present.

Discussion

It would appear that many of the concerns raised by scholars a decade ago have not been addressed, and identification procedures are still problematic today. First, we note that traditional individual IQ tests are frequently cited as a measure of general intellectual ability. While this may seem encouraging because of the more detailed information provided by individual assessments and because these tests have been re-normed and re-standardized, the dominance of the use of traditional intelligence tests still indicates reliance on the general intellectual aptitude construct within gifted programs. Further, the *WISC-R* (the most prevalently used individual IQ test) was used as the initial test (usually following a teacher or parent referral) in only 30% of the districts reporting its use. In the other 70% of the districts, the *WISC-R* was most often was used only in difficult cases and followed screening on a group intelligence or achievement test. It appeared that the total score was most often used as the reflection of giftedness.

Many school districts, regardless of definition or construct adopted, used group intelligence tests, either as a screening device or for placement into a gifted and talented program. Even when general intellectual ability is the focus of identification, use of group intelligence tests for placement is troubling given the finding by Harrington (1982) that the higher the level of ability, the greater the discrepancy between a child's group IQ and individual IQ. The *Otis-Lennon School Ability Test* was one of the most frequently used group intelligence tests; however, it has been questioned as a valid indicator of giftedness due to a lack of construct validity (Lundberg & Callahan, 1992).

There seems to be frequent confusion between the general intellectual and specific academic aptitude categories reflected in the practice in many districts of measuring general intellectual *aptitude* with academic *achievement* tests. There were also occasions (although less frequent) on which measures of general intellectual ability were used to measure specific academic abilities.

Note also the few responses under the construct of specific intellectual aptitude, a construct that more accurately reflects our current understanding of intelligence than does the general intellectual construct under the USOE definition. However, some IQ tests (such as CogAT) that were developed specifically to measure specific intellectual aptitude (e.g., quantitative ability, verbal ability, or non-verbal ability) are being used to measure the general construct of intelligence.

Unfortunately, published standardized achievement instruments are used by school districts to measure general, rather than specific, academic achievement, even when the test provides specific academic sub-scales. Note, for example, that 43 districts (8%) used the *ITBS* to measure general academic achievement under the USOE definition, while less than half that number used it to measure mathematical, language, science, or social science achievement. A similar pattern was noted on the other leading achievement tests.

In attempting to measure creativity, there is a disturbing use of IQ and achievement tests. If we accept the notion that intelligence and creativity are separate constructs (if not totally independent) and if we accept the widely agreed upon premise that standardized achievement tests measure low-level, knowledge and comprehension skills, then use of these tests is not justified as part of the identification of creative abilities. No evidence has been offered in the literature of the ability of either of these types of instruments (intelligence or achievement tests) to assess the constructs associated with creativity. Further, the majority of school districts measured creativity without a specific definition to guide operationalizing creativity. Given the many conceptions of creativity used in the construction of assessments, failing to define creativity before selecting an instrument is tantamount to allowing the test-maker to define the construct for the school district (Hunsaker & Callahan, 1993).

Intelligence tests were also used to measure outstanding talent in the arts, leadership, and in psychomotor ability. Clearly, the use of general intelligence tests for such purposes is not appropriate. On the one hand, it was encouraging to note that some of the districts not using published instruments were using locally developed instruments because of the limited validity of published instruments in these areas. On the other hand, these districts did not provide us with documentation on the reliability or validity of their locally-constructed instruments. When asked in a follow-up questionnaire if they had such documentation, all but one indicated they did not. Thus, the locally developed instruments may well have less reliability and validity than the published instrument.

Many districts tended not to use the USOE in its entirety. Instead, they chose specific constructs, usually selecting two or three constructs each from the categories of general intellectual aptitude, specific academic aptitude, and creativity. Rarely were leadership and visual and performing arts included. Further, although the USOE definition suggests assessing the various components independently, districts tended to measure them in combination, requiring students to be gifted across several dimensions.

Several district personnel recognized incongruities between their definitional statements and identification procedures. Anecdotally, one district coordinator stated, "This is the official statement, but the definition of giftedness is *not* reflected by the identification procedures."

Few districts were using unique standardized instruments to identify underserved populations. Although they may have been using the same standard instruments in different ways, there was no indication of this in official documents. The use of individualized instruments, such as the *WISC-R* and *Stanford-Binet* was both a positive sign and negative sign. On the one hand, individualized assessments provide a broader picture of children's functioning and individual examiners have greater opportunities to motivate performance. On the other hand, these instruments still reflect narrow conceptions of human abilities.

The Woodcock-Johnson Psycho-Educational Battery has been suggested as a useful instrument to identify gifted underachievers (Mather & Udall, 1985); however, our data indicated that this instrument was used primarily to identify giftedness in general racial/ethnic groups of children.

Note that most underserved populations were identified within the construct of general intellectual abilities. Kirschenbaum (1983) concluded that IQ assessment measures in the superior range and beyond are progressively contaminated by the home environment, thus suggesting a considerable bias in identifying giftedness from populations of poor children by using those instruments. Few group standardized intelligence tests include minorities in their norms. The same is true for older versions of individualized intelligence tests which also do not include minorities in their norms. When these groups *are* included, it is not clear how this affects the norms, since separate norms are not usually listed—although test publishers do report comparisons and examine for bias. Among the 551 districts from which we collected data, only *one* district had developed identification procedures specific to its population, creating local norms and reliability/validity data for the *Raven's Progressive Matrices* to identify underserved populations.

Matching Constructs and Assessments

Despite all the recommendations of researchers and literature reviews about how the gifted students should be broadly defined and identified, we found continued use of narrow definitions of intelligence as measured by group IQ tests and/or standardized, group achievement tests to be predominant. Further, we were able to identify only limited examples of new and innovative strategies or of new validity evidence for the use of standardized instruments for assessing gifted underserved students. See the NRC/GT publication *Contexts for Promise: Noteworthy Practices and Innovations in the Identification of Gifted Students* (Callahan, Tomlinson, & Pizzat, n.d.) for further documentation of these practices. Finally, the misuse of tests (i.e., tests invalid or not validated for the construct measured) seemed to reflect the same patterns as findings of Alvino, McDonnel, and Richert (1981) over a decade ago. Although it is crucial that we go beyond identification of gifted students to serving giftedness, a clear need exists to bring identification strategies in line with recommendations of the experts.

A U.S. Department of Education memorandum intended to aid federal civil rights enforcement stated, "Elementary school ability grouping that fosters segregation violates federal regulations if it cannot be justified on educational grounds or if it is inconsistently applied or subjective" (Armstrong, 1991, p. 7). One of the cited violations of ability grouping policies occurs when "criteria for assigning a student to a specific ability grouped class do not adequately measure the student's abilities *in that* subject" (emphasis added) (Armstrong, 1991, p. 7). Continued use of general intellectual ability measures as the basis for grouping for instruction (gifted or otherwise) may well violate this directive.

Forces Contributing to the Problem

Treffinger (1982a) identified a number of forces that seem to be at work in creating the discrepancies between the ideal and the practice. One is our understanding of what constitutes giftedness in the first place. As Hoge (1986) has pointed out, when giftedness was seen as a narrow cognitive construct (i.e., general, analytical intelligence), it was relatively easy to match the construct with appropriate instruments. However, with broadened conceptions of giftedness that include multiple cognitive constructs and noncognitive competencies, the matching task has become more complex and difficult. This problem is exacerbated, according to Hoge, by the vague terms often used to label the constructs and by lack of agreement about the dimensions of giftedness.

A second force is a belief that some constructs are too difficult to operationally define and to measure. The measurement of creativity, for example, is fraught with issues that state and local school system personnel are often unprepared to face (Callahan, 1991; Piirto, 1992). As a result, educators often select instruments that are widely known, whether or not the instruments match the adopted conception of giftedness or creativity.

The lack of training among many educational practitioners in making instrumentation decisions based on a sound theoretical or psychometric basis is a third factor. Teachers rarely have specific training in psychometrics. Many administrators have only rudimentary training in the interpretation of test scores and no training in test evaluation (Hoge, 1989; Piirto, 1992).

The myth that giftedness is a homogeneous construct expressed similarly across all individuals (Juntune, 1982) and cultures also mitigates against conforming to recommended practices in identification. This may come unintentionally from researchers seeking to establish absolute traits and behaviors associated with giftedness or from state level personnel hoping to establish reciprocity of gifted program services among the districts in their state. An associated belief is an acceptance of giftedness as a static trait—seeing the gifted child as being gifted at all times and in all circumstances (Hoge, 1989). Under these conditions variability in definitions is seen as undesirable, and instrumentation is selected based on finding the "truly" gifted who exhibit the greatest number of common characteristics (Renzulli, 1982; Treffinger, 1982b, 1982c). Efforts to move the conception of giftedness beyond a narrow intelligence test score and beyond purely cognitive abilities have considerable support, but in assessment practice the unitary notion of giftedness prevails with little attention to such factors in the identification process. Sapon-Shevin (1987) contended that a majority of school districts continue to identify students on the basis of standardized intelligence measures. While we found that an IQ test was seldom the only instrument used in the process of identification, the use of these assessment measures was pervasive.

Finally, there is a pragmatic force that contributes to the lack of match between a conception of giftedness and instruments chosen to measure it. Over 10 years ago, legislative prerogatives for establishing funding formulas and setting funding limits were often seen superseding theoretical issues about how giftedness should be defined and identified (Treffinger, 1982a). The concern seemed to be that the concept of giftedness would lose its meaning if it were cast too broadly, and that restricted resources would not be sufficient to deal with the greater numbers of students who would qualify.

Many of these forces are still at work today. For example, debates persist over what constitutes a good definition of giftedness and how to translate that definition operationally (Sternberg, 1990). The Council of State Directors of Programs for the Gifted (1991) has provided data indicating that states continue to limit the number of areas of giftedness served. Coleman and Gallagher (1992a) have found that states hesitate to adopt more open identification policies for fear of dealing with overwhelming numbers of students. Finally, in a national survey, Brown, Archambault, Westberg, Hallmark, and Zhang (1992) have found that the majority of teachers expected to participate in gifted identification decisions lack the training for doing so.

Some Possible Solutions

Three solutions may be useful in overcoming some of the problems. These include recommendations related to (a) definition construction, (b) professional involvement, and (c) instrument availability.

Definition Construction

Hoge (1988, 1989) has pointed out four issues that schools should confront when adopting a particular definition of giftedness. First is the need for explicit statements of the traits, aptitudes, and behaviors associated with giftedness upon which identification and placement decisions should be made. Clear statements of the components of giftedness should replace the vague terms often used. Second, schools should base definitions and operational practice in identification on theory or conceptions of giftedness rather than on instruments. Third, a consideration of how the definition will be translated into programming is essential. There should be a close correspondence between the definition and the programming/curricular decisions, with the definition driving programmatic and curricular options.

Finally, broader values and expectations associated with the definition should be taken into account. Parents, teachers, and the students themselves attach certain meanings to the gifted label. If we expect others to accept our conceptions, the meanings these individuals attach to terms must be explored and understood, and then should be reflected in statements about the traits, aptitudes, and behaviors associated with giftedness in our definitions.

Professional Involvement

Closely related to the recommendations for definition construction given in the previous section, is our second recommendation to involve professional educators, including classroom teachers, in the development of definitions, identification procedures, and programming at the local and state levels. Given the apparent lack of training by most classroom teachers to deal with these issues (Brown et al., 1992), this involvement must be two-sided. Teachers are an important source of information about the broader values and expectations associated with the gifted label, and these must be considered when formulating the wording of the definitions. Teachers' personal beliefs about giftedness often are divergent from the prevailing acceptance of general intellectual ability (Renzulli & Delcourt, 1986) and will help expand conceptions of talent. However, many educators need further education in both the interpretation of the types of scores generated by standardized instruments and in decision-making based on multiple data sources. Without this training they frequently resort to making decisions based on what is familiar—percentile ranks on ability and achievement tests (Hunsaker, 1991). Finally, while many teachers see giftedness as broader in conception, they also are prone to regard "good behavior" and "high achievement" on classroom tasks as fundamental to the concept of giftedness. Such conceptions may lead to limitations in the identification process which are as much to be avoided as narrowness resulting from a strict IQ conception of giftedness.

Instrument Availability

It is also important to make educators aware of the instruments that are available to measure a variety of psychological constructs that may be associated with giftedness. Teachers generally are familiar with achievement tests, IQ tests, and some instruments to assess learning difficulties. Instruments that measure student ability or achievement in specific academic areas, in less traditional areas such as the fine arts, or in non-intellective traits such as motivation are not as familiar or readily available. Educators need information by which to judge the usefulness of the various instruments that are available. This will permit them to locate reliable instruments that have evidence of validity for the construct or population to be assessed.

Two important resources have been developed at the NRC/GT to address these needs. First, the National Repository of Gifted Identification Instruments has been initiated by the University of Virginia site as discussed in Chapter 1. This repository is a collection of the published and unpublished instruments used to identify gifted students throughout the country. In addition to the instruments, information about the usefulness of these instruments is also available through summaries of reviews and research relating to the instruments. All of this information is available on a database at the University of Virginia (Callahan & Caldwell, 1993; see Chapter 1 of this document).

The second resource is a rating scale known as the *Scales for Evaluating Gifted Identification Instruments* described earlier (Callahan, Lundberg, & Hunsaker, 1993). This scale provides a means for researchers and professionals to evaluate the qualities of an instrument used for gifted identification against a variety of constructs, including validity and reliability evidence. This can be a valuable tool for making sound decisions about instruments to include in the identification process.

Conclusion

Clearly the problems of inappropriate instrument use in gifted identification continue to plague the field. After 10 years of work and recommendations, many issues have not been resolved in practice. Attitudes identified as impeding gifted education are still a problem to the field. The gap between theory and practice persists despite the best efforts of many experts and practitioners.

The information reported here should be interpreted with regard to possible limitations. While we used many strategies to gather information, the responses are clearly not random and are only a sample, albeit a large one. While the data cannot be statistically generalized to the entire nation, they are indicative of trends that deserve attention. It might be argued that we are presenting the best case scenario regarding current practices since these districts were confident enough to share their procedures. In fact, a small number of school districts explicitly wrote to say they *know* they are not following current recommended procedures, and therefore, declined to embarrass themselves by sharing their identification procedures. More sophisticated inferential statistical procedures were not conducted because of the lack of independence of cells. Instruments were frequently used by school districts to measure more than one construct.

There is a need to continue to examine the definition and identification of giftedness at the state and local school system levels to discover how the forces that impinge on sound identification operate within those systems. There is a need to involve teachers more as sources of information about giftedness and its attendant traits, aptitudes, and behaviors, but teachers also need more training in the measurement of various aspects of giftedness and guidance in how to use measurement in decision making. All is not bleak however. New resources are now available that will assist educators in examining the connection between the definition of giftedness under which the work and the instruments used to identify students to be labeled as gifted is paramount. When educators recognize the importance of that connection, they will ask better questions about how to identify giftedness in students. Hopefully in a shared examination of what to measure and how to measure, expert recommendation and professional practice will be more closely aligned.

CHAPTER 4: Reliability and Validity Studies

The materials gathered through the process of establishing a data bank on the identification of gifted students included approximately 1,800 locally developed identification instruments. Of these, only one school district reported reliability and validity data for its instruments. Consequently, the University of Virginia site chose to investigate the reliability and validity of additional locally developed instruments. After all the local instrument files had been reviewed, three instruments with promise were chosen for reliability and validity studies: the *Diet Cola Test*, the *Peer Referral Instrument*, and the *Teacher Search List*. In this chapter the psychometric properties of reliability and validity in these instruments are examined.

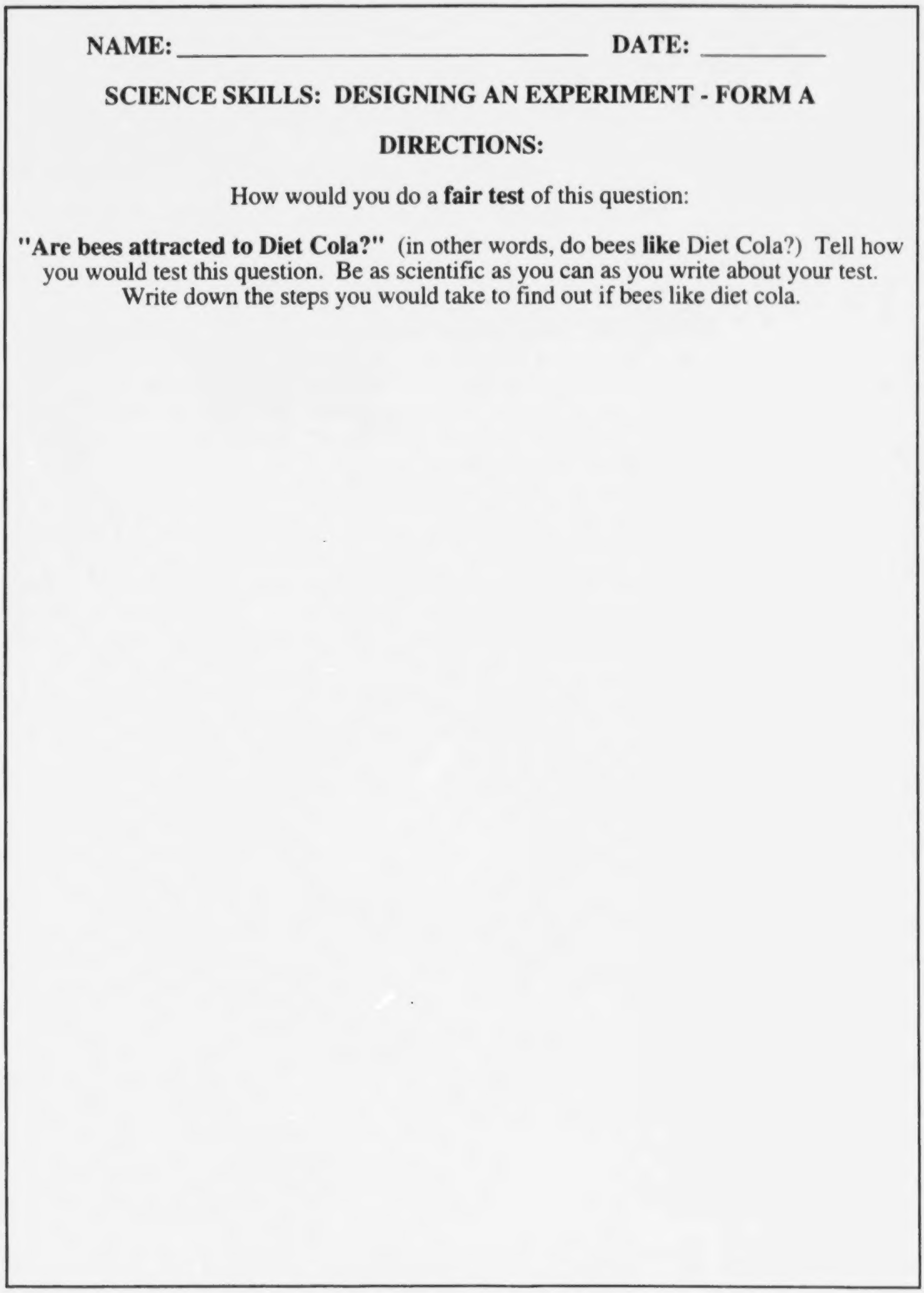
The *Diet Cola Test*

One instrument showing promise for the evaluation of science process skills was originally published as the *Diet Cola Test* (*DCT*) (Fowler, 1990) and was designed as the process section of a multiple-criteria matrix for identification of students in grades four through six who were talented in the area of science (M. L. Fowler, personal communication, September 1991). It is not a multiple-choice test, nor is it specific to a particular curriculum. It is open-ended, process-oriented, and requires students to apply their knowledge in designing a science experiment (see Figure 2). Because it deals with experimental design, students must also show their ability to "do science." As they complete their design, students have the opportunity to demonstrate their competency in all of the basic and integrated process skills. A review of existing assessments revealed that there were no existing instruments that measured these process skills at the upper elementary/middle school level (see Table 8).

The originator of the instrument provided a framework for assessment, but no reliability or validity studies were undertaken. The instrument appeared to exhibit content validity with a clear match between the task and its indicators of success and the criteria of science aptitude suggested by the literature. Because the ultimate worth of an instrument is determined by its ability to produce reliable results and to assist in accurate decision making, it is important to assess these psychometric characteristics. Hence, the first step is to assess the reliability of the instrument. Reliability was chosen as the initial study since the consistency of the test scores needs to be established before any validity studies can be undertaken.

Pilot Study

A pilot study was undertaken to determine the clarity of the directions and to get feedback about difficulties the students and/or teacher encountered during testing. Fifty students in a pull-out program for the gifted participated. Half received Form A and half received Form B (a parallel question about earthworms' attraction to light). The teacher kept a list of questions that were asked and also gave feedback about the clarity of the directions. Some minor changes in directions were made as a result.



NAME: ______________________ **DATE:** __________

SCIENCE SKILLS: DESIGNING AN EXPERIMENT - FORM A

DIRECTIONS:

How would you do a **fair test** of this question:

"Are bees attracted to Diet Cola?" (in other words, do bees **like** Diet Cola?) Tell how you would test this question. Be as scientific as you can as you write about your test. Write down the steps you would take to find out if bees like diet cola.

Figure 2. The *Diet Cola Test*.

Table 8

Matrix Comparison of Tests of Science Process Skills

Test	Grade level	Process Skills	Content
Assessment of Practical School Skills (Lock, 1989)	High School	1, 4, 11 and self-reliance	Related to practical work in science in Britain
Group Process Test (Riley, 1972)	3-5	program specific	Based on Science Curriculum Improvement Study (SCIS) curriculum
Objective Referenced Evaluation in Science (Shaw, 1983)	6	1-10, 12	Content not covered in science during treatment
Process of Biological Investigations Test (Germann, 1989)	High School	6, 9, 11	Examples taken from biology
Science Process Assessment (Smith & Welliver, 1990)	4	1-12, and using space/time	Pennsylvania SOL relationships
Test of Basic Process Skills (Padilla, Cronin, & Tweist, 1985)	4-8	1-6	No integrated processes
Test of Experimental Problem Solving Skills (Ross & Maynes, 1983)	7-8	9, 11	Experimental problem solving skill only
Test of Integrated Process Skills-II (Burns, Okey, & Wise, 1985)	7-12	7-12	Not content specific
Test of Integrated Science Processes (Tobin & Capie, 1981)	middle grades college	7-12	General content domain
Test of Science Processes (Tannenbaum, 1968)	Jr. High	1, 2, 3, 5, 6, 11	General content
The Science Process Test (Ludeman, 1975)	pre- and in-service	all	Specific to Science: A Process Approach (SAPA) curriculum
Unamed Assessment Tools (McLeod, Berkheimer, Fyffe, & Robinsob, 1975; Walbesser & Carter, 1970)	elementary	all	Specific to Science: A Process Approach (SAPA) curriculum

Note. All tests except "Assessment of Practical Skills" are multiple choice. APS is hands-on and rated by observers with check lists.

Key to Process Skills:
1. observing
2. inferring
3. measuring
4. communicating
5. classifying
6. predicting
7. controlling variables
8. defining operationally
9. formulating hypotheses
10. interpreting data
11. experimenting
12. formulating models

Study One: Reliability and Validity as an Identification Instrument

Schools

The sample was selected from those Collaborative School Districts (CSDs) who expressed interest in participating in The National Research Center on the Gifted and Talented's reliability and validity studies of identification instruments. In keeping with the priorities of The National Research Center on the Gifted and Talented, only schools with minority populations of 40% or more were selected from this pool. Letters were sent to selected districts outlining the study. Teachers in each selected district chose students from grades four through eight whom they would have nominated as gifted in science to complete the instrument. The sample consisted of 180 students.

Instrumentation

Form A of the *Diet Cola Test* (*DCT*) was used as it appeared in *Science Scope* (Fowler, 1990). Form B was constructed as a parallel form and asks students to design a test of the question, "Are Earthworms attracted to light?" Both forms of the test are open-ended paper and pencil assessments that direct the student to design an experiment. Scoring is done by checklist constructed by Fowler with points awarded for each item that is incorporated into the design. The total possible score is 21.

Subjects

Each participating teacher was asked to list the criteria used to select the students who would participate in the study. Teachers most often chose, "interest in science," "above-average ability in science," "logical thinking skills," "participation in extracurricular activities in science," "use of science process skills in class," and "participation in science fairs," as criteria for selection. Each participating teacher kept a list of students who participated in the study. The information included the child's name, gender, ethnic data, and whether or not the child had been identified as gifted using a global or general definition and/or in science specifically. Students' names were removed after data collection to preserve the confidentiality of the information. Teachers could keep a list of student identification numbers rather than names if they preferred.

Of the 180 students who were selected for the study, 174 completed tests for both rounds (see description below). Of the remaining 6 students, 4 were absent on one of the testing dates and 2 moved during the study. Ninety-two of the students were male and 82 were female. By grade, there were 33 in fourth, 47 in fifth, 37 in sixth, 18 in seventh, and 39 in eighth. Students represented seven ethnic groups. Twenty-three students were Pacific Islanders, 4 were Chamorro, 1 was Native American, 4 were Asian-American, 1 was Hispanic, 19 were African-American, and the remaining 122 were White. Ninety-nine students had been identified as gifted by their school system, the other 75 were not identified as gifted. Only 8 students out of the 174 were identified as gifted specifically in science. Because of our interest in reliability rather than validity at this stage of the investigation, this was not problematic.

Reliability

Equivalent Forms/Stability. During the first round of testing, half of the students were randomly assigned to Group 1 and received Form A; the other half received Form B (Group 2). Completed tests were returned to the researcher for scoring. During the second round, a list containing the student's name or ID number and form of the test to be taken was sent to each teacher. Group 2 took Form A while Group 1 took Form B. The time interval between testing was 10 weeks.

Interrater reliability. Fifty completed tests were selected at random to check for interrater reliability among the four raters. Two raters scored each test and their scores were recorded.

Intrarater reliability. Intrarater reliability was assessed by randomly selecting five tests for each of the four raters to score twice, with an interval of three days between ratings. These scores were also recorded.

Results. First, we examined the test values to be sure one sex or racial group did not get higher scores than another. Because of the small sample of Hispanics, Asian-Americans, and Native Americans, their scores were dropped from the analysis of racial differences. One-way analysis of variance (ANOVA) procedures using sex and race (African-American, Pacific Islanders, and White) as independent variables and the test scores as the dependent measures resulted in no significant differences (see Table 9 and Table 10). The one-way ANOVA test comparing scores across grade level was not significant in round one. In round two results of the one-way ANOVA showed a significant F ($p < .002$). The Tukey method of multiple comparisons indicated significant differences in fourth, fifth, and sixth grade scores compared to eighth grade scores (Table 11). The mean score for round one was 5.0, $SD = 2.6$. The mean score for round two was 4.8, $SD = 2.1$.

Reliability estimates. Pearson's product-moment correlation was used to determine the equivalent forms/test-retest reliabilities. The correlation for alternate forms over the ten-week time period was .76 ($p < .01$). Interrater reliability was assessed using the Pearson product-moment correlation, and for round one was .95 ($p < .01$) and for round two, .90 ($p < .01$). Intrarater reliabilities were .91 ($p < .01$) and .89 ($p < .01$), for rounds one and two, respectively. A Kendall's Coefficient of Concordance to test the degree to which raters tended to give the same rating was significant at $p < .002$ for round one and approached significance for round two ($p < .08$).

Validity. We originally chose to undertake validity studies to establish both convergent and discriminant validity for identification of students with high ability in science. Using a sample of 232 students from grades four through eight, we administered the science portion of the *Iowa Tests of Basic Skills* (*ITBS*), the *Group Embedded Figures Test* (*GEFT*), and the *Test of Basic Process Skills* (*TBPS*). As expected, the *DCT* and the *ITBS* did not correlate significantly. We had expected the *DCT* to correlate highly with the *GEFT*, a test of field-dependence/independence, since the literature supported its link to a student's ability to design a controlled experiment (Case, 1974; Lawson, 1976; Ronning, McCurdy, & Ballinger, 1984; Ross & Robinson, 1987; Shymansky & Yore, 1980; Strawitz, 1984). We also expected a higher correlation with the TBPS, since the *DCT* addresses both basic and integrated process skills. Although these correlations were significant, the reliability index and weak patterns of correlation in the convergent/discriminant validity matrix (Table 12) were not sufficient to suggest use for making decisions about the specific aptitude of specific individuals, i.e., as an identification instrument (Table 12). Only about 10% to 15% of variations in *DCT* scores was related to the students' scores on the *GEFT* or TBPS.

Table 9

Mean Scores on *Diet Cola Test* by Sex

Sex	1 Mean (*SD*)	2 Mean (*SD*)
male[a]	4.6 (2.2)	4.4 (2.2)
female[b]	5.4 (2.5)	5.2 (2.0)

Note. [a]$N = 92$. [b]$N = 82$.

Table 10

Mean Scores on *Diet Cola Test* by Ethnic Group

	Test Round			
	1		2	
Ethnicity	Mean	(*SD*)	Mean	(*SD*)
White ($N = 122$)	5.2	(2.6)	4.7	(2.3)
African American ($N = 19$)	5.4	(1.8)	5.1	(1.9)
Pacific Islander ($N = 23$)	4.0	(1.7)	4.8	(1.1)

Table 11

Mean Scores on *Diet Cola Test* by Grade

	Test Round			
	1		2	
Grade	Mean	(*SD*)	Mean	(*SD*)
4 ($N = 33$)	4.9	(2.3)	4.7	(2.0)
5 ($N = 47$)	4.5	(1.7)	4.2	(1.8)
6 ($N = 37$)	5.1	(2.8)	4.5	(1.9)
7 ($N = 18$)	4.7	(2.7)	4.6	(2.4)
8 ($N = 39$)	5.5	(2.5)	5.9	(2.3)*

Note. *Significant with 4, 5, 6; $p < .05$.

Table 12

Correlations of the *Diet Cola Test* With *Iowa Tests of Basic Skills* (Science), *Group Embedded Figures Test*, and *Test of Basic Process Skills*

	Diet Cola Test	ITBS	GEFT	TBPS
Diet Cola Test	1.00	.14*	.26**	.19**
Iowa Tests of Basic Skills (ITBS)		1.00	.32**	.31**
Group Embedded Figural Test (GETT)			1.00	.39**
Test of Basic Process Skills (TBPS)				1.00

Note. $*p < .05$. $**p < .01$.

Discussion

According to Gronlund (1985), correlating alternate forms of a test with a time lapse between testing is the most rigorous measure of reliability, since all possible sources of variation in the test scores are taken into account. The stability and equivalence estimate of reliability of the *Diet Cola Test* as a group assessment is good as evidenced by the alternate forms/test-retest correlation of .76 ($p < .01$). Both interrater reliability and intrarater reliability indices are high, allowing the instrument to be reliably scored. Additionally, the Kendall's Coefficient of Concordance indicated there was agreement among the raters. Behuniak (1992) suggests we do not necessarily need to have score reliability on performance assessments equal to that found in traditional measures, and maintains "our striving for valid tests may be more achieved by considering somewhat less reliable alternatives" (p. 11).

If we take a conservative position, however, we would caution against using this instrument for making decisions about individual students. However, the reliability is high enough to warrant its use for group decision making, and the close match between the defined desirable science outcomes measured above and the content of the test suggests a potential use as a program evaluation tool.

We found no differences across grade levels in round one. In round two, there was a significant difference in eighth grade scores compared to the mean scores of fourth, fifth, and sixth grade students. Although the significantly higher scores of the eighth graders is not surprising, we expected to see significant differences across all grade levels on both rounds of testing. It is also unsettling that, on an instrument which directs students to design a fair test of a question, the mean is only 5 out of a possible 21 points among students that teachers identify as highly able in science. Whether this is based on poor detection skills of teachers or a poor performance on important process skills by our most able students cannot be ascertained from the data; however, based on the inclusion of 58% of identified gifted students in our sample, we anticipated higher mean scores.

The literature on the state of science education and science assessment today suggests a need to find instruments that assess the actual process skills used in science. The low correlation between the *DCT* and the *ITBS*-Science appears to support the notion that the *DCT* is not related to specific science content nor to science achievement, but may address alternative science process skills. Hence, we investigated the use of the *DCT* as a program evaluation tool. Further, the little change in cross-grade scores suggested that the *DCT* may be tapping process skills not taught as part of the regular curriculum but often part of gifted program instruction.

Study Two: Validity as an Evaluation Tool

Subjects

Gifted students ($N = 187$) in grades five through eight who were attending a Summer Enrichment Program participated in the study. These students were selected on the basis of high general aptitude scores, high achievement scores in the selected area of study (usually *ITBS* or *Educational Research Bureau* [*ERB*]), teacher recommendations, and ratings of essays. Students were enrolled in a humanities, science, social science, or math program. While several classes had a process-oriented curriculum, one science class focused exclusively on experimental design. The science teacher introduced students to the process of experimental design and activities were planned around each stage of the process. All science process skills listed on the checklist used to score the *DCT* were addressed in this class. For the culminating project, each student had to devise an original experimental design.

There were 94 males and 93 females in the sample. Half were given Form A and half were given Form B at the beginning of the two-week session. Students were tested again at the end of the session. Those receiving Form A as a pretest were given Form B. Those who took Form B as a pretest were given Form A.

Results

An Analysis of covariance (ANCOVA) was performed using the *DCT* scores from the pretest as the covariate and the DCT posttest as the dependent variable. Group membership and sex were the independent variables with the science class whose curriculum focused on designing an experiment as one group and the students from the remaining classes as the second group. The group main effect was significant ($p < .0001$). Neither the sex main effect nor the two-way group by sex interaction was significant (see Table 13).

Discussion

The statistical analyses suggest when science processes are taught, this test is sensitive to the differences in student responses. The test did discriminate between the class whose curriculum focused on process skills and those classes in which process skills were not a part of the curriculum. The test does not differentiate between the sexes, making it a practical measure for classroom use.

Table 13

Analysis of Covariance of *Diet Cola* Postest Scores X Group X Sex

Source of Variance	Sum of Squares	Degrees of Freedom	F	F Probability
Covariate Diet Cola Pretest	313.05	1	67.43	.0001
Main Effects	72.70	2	7.83	.001
Group	63.77	1	13.74	.0001
Sex		1	2.40	.124
2-Way Interaction	1.50	1	.33	.57
Group by Sex			.57	
Explained	387.30	4	20.86	.0001

Summary

Wiggins (1993) urges those who construct tests to link them to "the tasks, contexts, and 'feel' of real-world challenges in all their messiness" (p. 214). He maintains that the ability to perform with knowledge must be assessed by asking students to produce work of their own, not simply to select an answer. The tasks should imitate the actual tasks performed by professionals in the given domain. Wiggins contends more emphasis needs to be put on face validity than is currently the case. Face validity is the reasonableness of the test. In other words, "is the test, 'on the face of it,' a proper test of the ability or knowledge of the question?" (p. 212). In this respect, the DCT exhibits face validity by requiring students to use the same processes a working scientist would use to design an experiment. The empirical evidence of reliability and content validity collected in these studies offers further evidence of the appropriateness of using this instrument for assessing the effects of a process oriented curriculum in science.

The *DCT* appears to be a valid and reliable instrument to be used in the science classroom when teachers are interested in determining the effectiveness of direct instruction of basic and integrated science process skills. It has the advantage of simulating the actual process of experimental design in a way that cannot be addressed by conventional multiple-choice, paper-and-pencil tests. Because hands-on performance assessment can be both costly and time-consuming, the *DCT* provides a surrogate means to assess performance. It can be reliably scored with little time needed to train scorers. The reliability of the instrument is within the range reported for other performance assessments.

The *Peer Referral Form*

Another instrument showing promise is a *Peer Referral Form* designed by Udall (1987) for the identification of gifted minority students in grades four through six. Students are asked to evaluate their classmates' behaviors based upon interactions and observations and then to name those most fitting the listed categories. The original instrument included 14 questions. We modified the instrument to include 10 questions based on Udall's pilot research findings (see Appendix G).

The peer referral form addresses gifted behaviors which may be exhibited by potentially gifted students but may go unnoticed by their teachers. Specific categories of gifted behaviors addressed by the instrument are: speed of learning, task commitment/motivation, general intelligence, and creativity in the areas of play, music, art, and language.

The initial study (Udall, 1987) of this instrument was conducted in 3 school districts containing 75%, 50%, and 25% Hispanic populations, respectively. The total sample size for the initial study consisted of 1,564 4th, 5th and 6th grade students and 66 teachers. The study, designed to evaluate the effectiveness of the *Peer Referral Form* in selectively identifying gifted Hispanic students, included interviews of students to determine student perceptions concerning the instrument. Udall concluded that peer referral is a useful technique in the identification of both Hispanic and non-Hispanic students and that this instrument can aid in the identification of gifted Hispanic students not previously identified by their teachers. In addition, the peer nominations tended to reflect the cultural balance of the schools included in the study more accurately than did teacher nominations.

The creator of the *Peer Referral Form* established the content validity of the instrument. To confirm the content validity, a panel of eleven Hispanic individuals familiar with both the educational system and Hispanic culture reviewed the form. In addition, two questions were included on the original instrument which addressed non-gifted behaviors. These questions provided a validation check for the instrument, and the responses of the students discriminated between questions focusing upon giftedness and those not focusing upon giftedness. It appears that the instrument exhibits content validity.

However, this instrument has not been previously studied for reliability. No studies of its construct validity have been conducted. Because the value of an instrument ultimately is determined by its capacity to provide consistent and dependable results and to assist effective decision making, the assessment of the psychometric features of reliability and validity is important. The reliability of the *Peer Referral Form* was the initial focus of this study since the reliability of an instrument should be confirmed before validity issues can be addressed. Examination of the validity evidence was undertaken after the reliability was estimated.

Methodology

The sample was selected from Collaborative School Districts that expressed interest in participating in The National Research Center on the Gifted and Talented's reliability and validity studies of identification instruments. In keeping with the priorities of The National Research Center on the Gifted and Talented and with the intent of the peer referral form, only schools with high Hispanic populations ($\geq 90\%$) were selected from this pool. Letters were sent to selected districts outlining the study. The contact person in each district chose classes from grades four through six. The sample consisted of 670 students in the first round. For the second round data collection, we asked that the same students complete the instrument again. Of the original sample, 577 participated in the second round assessment.

Instrumentation

The modified form of Udall's *Peer Referral Form* (1987) was used throughout the study. The modifications consisted of dividing one multi-part question into five separate questions, resulting in a total of 10 questions. The *Peer Referral Form* is a paper and pencil test that directs the student to identify classmates who fit given descriptions. Tallying the number of nominations each child receives is the first step in the consideration of each student. Next, the nomination proportion is computed:

n.p. = n_n / N (where n_n = number of nominations)

Because the total possible score of one child in one class depends on the class size, the cutoff score for nomination is computed from the class size and the number of students responding, as follows:

1. Chance of nomination on 1 question by 1 respondent in a class of N students:

   $p = 1/N$

2. Expected number of chance nominations on the instrument for 1 subject by 1 respondent in a class of N students:

   $n_q * p$ (where n_q = number of questions, always 10 on this instrument)

3. Number of chance nominations for 1 subject over all respondents in class:

   $E = n_r * n_q * p$ (where nr = number of respondents)

4. Standard deviation:

   $SD = \sqrt{np(1-p)}$

5. Upper bound of confidence interval:

   $\text{u.b.} = E + z_{.99} * SD$

   $= E + (2.33) * SD$

6. Nomination cutoff:

   cutoff = ceiling (u.b.) (i.e., rounding upward)

Subjects

Each participating teacher provided a list of students who participated in the study, along with demographic information on each student, including the child's name, grade, gender, ethnicity, and whether or not the child had been identified previously as gifted. The school districts indicated that these students previously had been identified as gifted in the area of general intellectual ability. Anonymity could not be assured because students' names were necessary in order to tally nominations. However, students were assured that their responses would be seen only by researchers at the University.

Six hundred eleven of 670 students completed the form appropriately in the first round of the study, and 530 of 568 in the second round. Five hundred fifty-five students were named across both rounds. Since the formulae used to compute the nomination cutoffs take into account the number of students responding, the two rounds could be compared fairly. In the first round, 318 of the students were male and 352 were female (Round 2: 274, 294). By grade, there were 219 students in fourth grade, 274 in fifth, and 177 in sixth (Round 2: 189, 232, 147). Students represented 5 ethnic groups. Five hundred forty-eight were Hispanic, 94 were White, 14 were African-American, 9 were Native American, and 4 were Asian-American (Round 2: 471, 72, 10, 5, 3). Sixty-seven had been identified as gifted by their school systems during the first round (Round 2: 60). The other 603 in Round 1 were not identified as gifted (Round 2: 508).

Procedure

Test-Retest Reliability

All students received the same version of the *Peer Referral Form*. Completed tests were returned to the researchers for scoring. The time interval between the two rounds of testing was approximately six weeks. The proportion of nominations received by each child was calculated and a cut-off score was calculated for each class. Each student was categorized as either surpassing or not reaching the cut-off score for each round.

In establishing the reliability over time of an instrument such as this one, we would hope that questions tapping specific areas of ability would demonstrate a higher degree of reliability than those combining responses across a variety of areas of ability.

Validity

Initial construct validity of the instrument would be indicated if the questions tapping similar constructs of giftedness correlate more highly with themselves than with other questions. Questions 4, 5, 6, 7, and 8 were highlighted as those questions on the instrument which address specific abilities. These questions were examined both individually and as a cluster of the arts. Questions 1, 2, 3, 9, and 10 addressed general intellectual ability.

Results

We assessed the test-retest reliability of the instrument in two ways. First, we calculated the percentage of agreement between the categorization of each student (exceeding or not exceeding the cutoff score) for Round 1 and for Round 2. Using Round 1 as the basis, the percentage agreement was 79.29%. Using Round 2 as the basis, the percentage agreement was 77.08%. We then calculated the correlation between the first and second round ratios of nominations to class sizes. This correlation, .85, was significant at the .01 level.

Correlation coefficients demonstrated that over time those specific questions which address specific areas of giftedness, such as musical ability and art ability, also had a high degree of reliability. The reliabilities for questions 4, 5, 6, 7, and 8 are exceptionally high for single item assessments (Table 14). Further, the individual items correlated more highly with themselves in the test-retest assessment than they did with other items in the instrument.

Table 14

Correlation Coefficients Between Items on *Peer Referral Form*

	Cluster of the Arts Round 1	Cluster of the Arts Round 2	rd. 1 Ques. 4	rd. 1 Ques. 5	rd. 1 Ques. 6	rd. 1 Ques. 7	rd. 1 Ques. 8	rd. 2 Ques. 4	rd. 2 Ques. 5	rd. 2 Ques. 6	rd. 2 Ques. 7	rd. 2 Ques. 8
Cluster of the Arts Round 1	1.00											
Cluster of the Arts Round 2	.81	1.00										
Round 1 Question 4	.63	.55	1.00									
Round 1 Question 5	.58	.35	.19	1.00								
Round 1 Question 6	.63	.53	.45	.27	1.00							
Round 1 Question 7	.43	.22	.07	.17	.10	1.00						
Round 1 Question 8	.57	.53	.06	.19	.06	.09	1.00					
Round 2 Question 4	.56	.63	.82	.11	.49	.10	.05	1.00				
Round 2 Question 5	.33	.48	.15	.46	.18	.12	12	.18	1.00			
Round 2 Question 6	.49	.64	.40	.15	.72	.09	.05	.46	.19	1.00		
Round 2 Question 7	.27	.35	.06	.21	.09	.38	.08	.03	.18	.08	1.00	
Round 2 Question 8	.48	.58	.04	.16	.00	.05	.84	.03	.09	.04	.03	1.00

Note. Ques. = Question. rd. = Round.

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Gender and Ethnic Discrimination

Next, we examined the *Peer Referral Form* for evidence of gender and race discrimination. The *t*-test procedures demonstrated no significant differences in nomination by gender across total nominations and across ratios of total nominations to class size. Significant differences by gender were found, however, across ratios of nominations to class size on specific questions and clusters of questions. In both rounds, females were nominated significantly more times than males on questions addressing general intellectual ability and dance ability. Males were nominated significantly more times than females in the area of drawing ability in both rounds and in the area of making up games in round 1. Tables 15-18 summarize these analyses.

Table 15

Peer Referral Form: *t*-test of Differences in Ratio of Nominations by Gender Overall *t*-test Results by Gender

Variable	*N*	Mean (*SD*)	t value	2-tail probability
Round 1 Ratio[a]				
Males	318	0.32 (0.33)	-1.13	0.26
Females	352	0.34 (0.33)		
Round 2 Ratio[a]				
Males	274	0.32 (0.33)	-1.08	0.27
Females	294	0.36 (0.34)		

Note. [a]Ratio of number of nominations to class size.

Table 16

Peer Referral Form: *t*-tests by Gender Differences in Number of Nominations Overall

Variable	*N*	Mean (*SD*)	t value	2-tail probability
Round 1 Tally[a]				
Males	318	7.88 (8.13)	-1.27	0.20
Females	352	8.69 (8.32)		
Round 2 Tally[a]				
Males	274	8.19 (8.10)	-1.15	0.25
Females	294	9.00 (8.58)		

Note. [a]Number of nominations received by a student.

Table 17

Peer Referral Form: ANOVA Results by Gender on Sub-Scales (Ratio of Nominations)

Variable	*N*	Mean (*SD*)	F ratio	F probability
Round 1 Ratio[a]				
General Intellectual Ability				
Males	318	3.56 (5.36)	8.61	0.00
Females	352	4.85 (5.99)		
Creative Ability				
Males	318	4.19 (5.33)	1.36	0.24
Females	352	3.74 (4.58)		
Dance Ability				
Males	318	0.49 (1.42)	10.98	0.00
Females	352	0.97 (2.20)		
Games Ability				
Males	318	0.95 (1.69)	6.26	0.01
Females	352	0.68 (1.06)		
Musical Ability				
Males	318	0.72 (1.64)	0.07	0.77
Females	352	0.75 (1.59)		
Story Writing Ability				
Males	318	0.78 (1.38)	0.23	0.62
Females	352	0.83 (1.40)		
Drawing Ability				
Males	318	1.24 (2.74)	18.95	0.00
Females	352	0.50 (1.58)		

Note. [a]Ratio of number of nominations to class size.

Table 18

Peer Referral Form: ANOVA Results by Gender on Sub-Scales by Number of Nominations

Variable	*N*	Mean (*SD*)	F ratio	F probability
Round 2 Ratio[a]				
General Intellectual Ability				
Males	274	3.79 (5.88)	5.45	0.001
Females	294	4.99 (6.43)		
Creative Ability				
Males	274	4.40 (5.30)	1.18	0.28
Females	294	3.96 (4.63)		
Dance Ability				
Males	274	0.55 (1.47)	9.47	0.02
Females	294	1.06 (2.33)		
Games Ability				
Males	274	0.89 (1.33)	2.19	0.29
Females	294	0.75 (1.06)		
Musical Ability				
Males	274	0.29 (1.94)	0.01	0.94
Females	294	0.82 (1.94		
Story Writing Ability				
Males	274	0.86 (1.29)	0.19	0.66
Females	294	0.82 (1.16)		
Drawing Ability				
Males	274	1.27 (3.30)	12.10	0.0005
Females	294	0.52 (1.65)		

Note. [a]Ratio of number of nominations to class size.

While one-way analysis of variance (ANOVA) procedures on the ratio of nominations showed no significant differences by ethnicity for the second round, significant differences were found by ethnicity for the first round (see Table 19). The Tukey post hoc tests of differences between the round one ratios of nominations to class sizes of African-Americans were significantly different from the ratios of Hispanics or Whites. African-American students were nominated significantly more times than Hispanics and Whites even when the total population was considered. Differences between the tallies of Asian-Americans and the tallies of Hispanics or Whites were also significant. However, the sample size of African-Americans and Asian-Americans is so small relative to the total sample size that these results are likely spurious.

Significant differences by ethnicity also were found in the ratios of nominations to class size on specific questions and clusters of questions (see Tables 20-22). In Round 1, Asian-Americans were nominated significantly more times than all other groups on questions addressing general intellectual ability, while African-Americans were nominated significantly more times than all other groups on the cluster of questions addressing creative abilities and on the specific questions addressing dance and musical ability. In Round 1, African-Americans were also nominated significantly more times than Whites in the area of making up games. In Round 2, Asian-Americans were nominated significantly more times than Hispanics, Whites and African-Americans across general intellectual talent. Also in Round 2, African-Americans were nominated significantly more times than Whites on the creative abilities cluster, were nominated more times than Hispanics, Whites and Native-Americans in the area of dance ability, and were nominated more times than Hispanics and Whites in the area of musical ability. No significant differences were found between Hispanics and Whites across specific questions or clusters of questions.

Table 19

Tukey Post-hoc Results by Ethnicity on Ratio of Nominations

Variable	*N*	Mean (*SD*)	Hispanic	White	African-American	Native-American	Asian-American
Round 1 Ratio[a]							
Hispanic	548	0.33 (0.32)					
White	94	0.31 (0.31)					
African-American	14	0.56 (0.49)	[b]	[b]			
Native-American	9	0.30 (0.31)					
Asian-American	4	0.68 (0.58)					

Note. No significant differences were found for Round 2. [a]Ratio of number of nominations to class size. [b]Significantly different at $p < .05$.

Table 20

Peer Referral Form: ANOVA Results by Ethnicity on Ratio of Nominations

Variable	*N*	Mean (*SD*)	F ratio	F probability
Round 1 Ratio[a]				
Hispanic	548	0.33 (0.32)		
White	94	0.31 (0.31)	2.87	0.02
African-American	14	0.56 (0.49)		
Native-American	9	0.30 (0.31)		
Asian-American	4	0.68 (0.58)		
Round 2 Ratio[a]				
Hispanic	477	0.35 (0.34)		
White	72	0.30 (0.27)	1.53	0.19
African-American	10	0.46 (0.33)		
Native-American	5	0.15 (0.15)		
Asian-American	3	0.62 (0.49)		

Note. [a]Ratio of number of nominations to class size.

Table 21

Peer Referral Form: ANOVA Results by Ethnicity on Number of Nominations

Variable	*N*	Mean (*SD*)	F ratio	F probability
Round 1 Tally[a]				
Hispanic	548	8.11		
White	94	7.76 (7.17)	4.57	0.00*
African-American	14	15.07 (12.20)		
Native-American	9	8.44 (8.72)		
Asian-American	4	19.75 (17.78)		
Round 2 Tally[a]				
Hispanic	477	8.66 (8.48)		
White	72	7.60 (6.90)	2.40	0.04*
African-American	10	13.20 (10.05)		
Native-American	5	4.20 (3.83)		
Asian-American	3	18.33 (14.29)		

Note. [a] Number of nominations received by a student.

*$p < .05$.

Table 22

ANOVA Results by Ethnicity

Variable		General Intellectual Ability	Creative Ability	Dance Ability	Making Up Games Ability	Musical Ability
Round 1	N					
Hispanic	548					
White	94					
African-American	14		1	1	5	1
Native-American	9					
Asian-American	4	1				
Round 2						
Hispanic	477					
White	72					
African-American	10		6	3		4
Native-American	5					
Asian-American	3	2				

Key:
1 = Significantly different from all other groups
2 = Significantly different from Hispanics, Whites, and African-Americans
3 = Significantly different from Hispanics, Whites, and Native-Americans
4 = Significantly different from Hispanics and Whites
5 = Significantly different from Hispanics
6 = Significantly different from Whites

Discussion

The literature concerning the identification of gifted minority students suggests a need to find instruments which better identify these students. The overall reliability of the modified Udall *Peer Referral Form* (1987) is high as demonstrated by the percentage agreement between Round 1 and Round 2 nominations and by the test-retest reliability correlation of .85 ($p < .01$).

The differences found across gender on specific questions and clusters of questions in both rounds of administration suggest that different cutoff scores may need to be used for males and females on questions addressing particular constructs of giftedness. While differences by gender for specific talents may not actually exist, it appears that the students in this study associated certain talents with a given gender. Of course, it may actually be that in the sample there were actual gender differences in ability. Further study in other school districts should be initiated before a firm conclusion is drawn.

The difference found across ethnicity for the total tallies of nominations of Asian-Americans may be spurious due to the small sample size of Asian-Americans included in this study and may, therefore, be meaningless. It is not clear whether the difference found in Round 1 for the ratios of total nominations of African-American students is meaningful because this difference did not occur in Round 2. The differences found for the ratios of nominations of Asian-Americans and African-Americans across specific questions and clusters of questions may again be due to small sample sizes.

It is important to note that no significant difference existed between the nominations of Hispanics and Whites. This finding is important because the *Peer Referral Form* seeks to address broader ranges of students and giftedness. Because the intent of this instrument is to increase the identification of gifted Hispanic students, clearly it is imperative that it reflect cultural neutrality, which it apparently did for the Hispanic population as compared with the White population.

The significant difference in the number of nominations between and in the ratios of gifted and non-gifted students across those questions addressing general intelligence demonstrates the construct validity of this instrument. If students are identified as gifted based upon general intellectual ability, then their peers also tended to identify them as gifted in terms of general intellectual ability. Because their area of identified talent is intellectually gifted, we would not expect their peers to identify them as talented in terms of arts abilities such as music and drawing any more than they would identify other students in these areas of talent.

The pattern of greater correlation between questions addressing arts areas than between arts items and general intellectual ability items is also initial evidence of the construct validity of this instrument. Further, the greater the correlation between two administrations of the same item measuring talent in the arts than between the correlations of items measuring different constructs is an additional suggestion of the construct validity.

These results strongly suggest that the items be used independently or in appropriate clusters to nominate students. That is, rather than using an overall cutoff, students should be considered according to the proportion of nominations in the area of giftedness by construct. Students with talents in the arts often received numerous nominations on one of these items, but not necessarily on all. Nor did they necessarily receive nominations on questions dealing with general intellectual ability.

According to Udall, the *Peer Referral Form* has content validity. The questions on the instrument target gifted behaviors, and Udall considers the instrument useful in the identification of gifted minority students (1987). Our analyses of the reliability and validity of this instrument, as well as of the gender and ethnic discrimination issues, suggest support for in this instrument.

Teacher Search List

The third instrument to be studied was an instrument developed by Susan Baum at the College of New Rochelle, *Teacher Search List*. This instrument is designed to alert teachers to giftedness in primary students, and to be used as an initial screening for entry into gifted programs. The instrument is a class survey matrix, where students are listed down the side of the page and talent areas listed across the top. Teachers complete the matrix as they watch a video developed by the instrument's author. In the video, student behaviors which indicate talent in each area are explained and illustrated. The talent characteristics and constructs surveyed are: learns easily, is curious, reads, has in-depth interests, spatial ability, leadership skills, dance ability, and music ability.

Reliability Study

Subjects

The *Teacher Search List* initially was assessed for reliability. Three schools participated in the study. Table 23 shows grade level information, along with student gender.

Instrumentation

The *Teacher Search List* was used as intended by the author of the instrument. A copy of the videotape was sent to each site along with instructions for completing the instrument. Data were returned to the University of Virginia for analysis.

Results

Stability

The *Teacher Search List* was administered twice to the same teachers; eight to ten weeks apart, in order to assess stability of ratings over time. No significant differences were found in total score between round 1 and round 2 for the middle and high school sample. For the elementary samples, there was a significant difference ($t = -2.45$, $p = 0.015$); students were given higher scores in the second round than the first.

The Cochran Q test was used to assess differences between ratings on individual scales which comprise the total score. The null hypothesis was that the probability of selection in round one equals the probability of selection in round two. Hence, any scale with a significant p-value yielded different scores between round one and round two. Table 24 shows the results by scale for the middle and high school sample. For the middle school sample, the eight individual scales showed suitable reliability; that is, the ratings on the second occasion were not significantly different from the ratings on the first occasion for any of the competent dimensions. Table 25 shows results for the elementary samples. The areas of learns easily, has in-depth interests, and has spatial abilities were unstable in that sample, suggesting that it may be more difficult for teachers to reliably note these dimensions in children at such a young age.

Table 23

Students by Gender and Grade

Grade	Males	Females	Total
K	32	34	66
1	189	148	337
2	42	40	82
4/5 combined	13	10	23
5	9	11	20
6	6	13	19
7	15	12	27
8	10	16	26
9	3	8	11
10	1	3	4
Total	320	295	615

Table 24

Cochran Q Results for Secondary Sample

Scale	Cochran Q	*p*-value
Learns Easily	.06	.81
Is Curious	.06	.81
Reads Everything	.14	.71
Has In-depth Interests	.11	.74
Has Spatial Skills	1.29	.26
Shows Leadership Qualities	1.00	.32
Shows Dance Ability	.20	.65
Shows Music Ability	.11	.71

Table 25

Cochran Q Results for Elementary Sample

Scale	Cochran Q	p-value
Learns Easily	6.15	.13
Is Curious	.24	.63
Reads Everything	2.86	.09
Has In-depth Interests	8.47	.01
Has Spatial Skills	6.37	.01
Shows Leadership Qualities	.25	.62
Shows Dance Ability	.09	.76
Shows Music Ability	.14	.71

Gender Differences

Analysis of variance was used to assess differences between males and females in the study. No significant differences were found in either sample.

Grade Level Differences

Analysis of variance was used to assess differences among grade levels in the study. No significant differences were found in either the elementary or secondary sample.

Ethnic Differences

Analysis of variance was used to assess differences among ethnic groups in the study. No significant differences were found in the middle and high school sample. In the elementary samples, significant differences were found. Table 26 reports the ANOVA results, and Table 27 includes mean scores for each ethnic group.

Discussion

These results suggest that a total score on the instrument is more stable for older students than elementary students. Individual ratings are stable for secondary students, but only some scales are stable in the primary population. Young students may change too quickly to provide stable responses on some scales of an instrument of this type. Because of rapid change in young students, teachers may also be responding to behavior of the last few days rather than overall behavior patterns, and thus rate these less reliably. The fact that second round scores were higher suggests that teachers may in fact be sensitized to talents in their students by the instrument. Because of unsuitable reliability, validity studies at the elementary level are not warranted. Validity studies at the secondary level are warranted and recommended before using this instrument.

Table 26

Analysis of Variance Results by Ethnic Group for the Elementary Sample

Source of Variance	df	Sum of Squares	F Ratio	F Probability
Among Groups	4	41.07	3.12	0.01
Within Groups	276	907.8		

Table 27

Mean Scores by Ethnic Group for Elementary Sample

Ethnic Group	*n*	Mean Total Rating
White	123	1.29
Hispanic	126	0.76
African-American	28	0.50
Asian-American	1	5.00
Native American	3	1.00
Total	281	0.98

Note. Ethnic Group data are missing on 227 students in the elementary sample.

CHAPTER 5: A Summary and Discussion

The review of current practices and instruments used in the identification of gifted students provided us with guidelines for appropriate use, some disappointing findings which indicate that often these guidelines are not being followed, and heartening examples of promising practices and innovative assessments. The collection of articles and instruments, the review of practices and the assessment of new instruments was a multi-stage, multi-faceted process beginning with a literature review and ending with the collection of reliability and validity data on three assessment tools.

The National Repository

The first stage of this project involved the gathering of a variety of data from multiple sources. Using literature searches, solicitations sent directly to school district personnel, and announcements in a wide-range of professional newsletters, we sought literature on: (a) the identification of gifted students, particularly underserved gifted students, (b) information on practices and instruments (both standardized published instruments and locally developed instruments) used to screen and identify gifted students in general, and (c) innovative practices and instruments used to identify underserved gifted students. These data were entered into a computer data base allowing for searches according to topics in the identification of gifted students, types of instrument, populations to be identified, etc. Seven data bases currently exist. These are:

Abstracts of published reviews of identification instruments
Abstracts of articles and papers which address specific issues in identification
Abstracts of articles and papers which address uses of particular identification instruments
Identification instruments developed and used by local school systems
Reviews of published, standardized identification instruments using the *Scale for Evaluation Gifted Identification Instruments* (developed by NRC/GT staff)
Records of the use of identification instruments by local school districts
Contents of state department of education documents.

The repositories of abstracts, lists of instruments, records of the use of instruments, and contents of state department documents are accessible by category of information but are not evaluated. The reviews of specific instruments provide evaluative judgments of the reliability and validity of the instruments according to specific uses with specific populations. The categories on which the instruments are evaluated are: validity, reliability, propriety, respondent appropriateness, utility, interpretation, evaluation usefulness, and political viability. The review of the instruments clearly indicated that little validity evidence relating to the assessment of gifted constructs is available on many of the instruments commonly used to identify gifted students. Further, most school districts are using locally developed checklists and rating scales or some adaptation of the *Scales for Rating the Characteristics of Superior Students* (*SRBCSS* also known as the Renzulli-Hartman scales) without collecting reliability or validity evidence, or establishing normative information at a local level. The latter practice results in the establishment of arbitrary, indefensible "indicators" of giftedness.

Guidelines for Identification: The Ideal

As the literature on identification was compiled, we identified specific guidelines for practice which were repeatedly cited as desirable in a fair, equitable, valid, and defensible set of procedures for identification which would reflect current theories of intelligence and giftedness. These included:

Adopt a clearly defined, but broadened conception of giftedness
Use multiple criteria, not multiple hurdles in the identification process
Use unique, separate instrumentation for different areas of giftedness
Be sure the specific instruments that area used for identifying different areas of giftedness are valid and reliable for assessing the construct under consideration
Do not use a single cut-off score on an instrument or a matrix for making screening or identification decisions
Base identification and placement on student need not numbers, quotas, or slots
Be aware of and capitalize on the fact that giftedness may manifest itself in different ways in different cultural or socio-economic groups
Avoid the use of matrices which sum the scores from several assessment tools to form a single score indicative of "giftedness."

Current Practice

Reviewing information sent from 551 school districts on practices and instruments, we categorized definitions of giftedness used for the identification process, constructs of giftedness underlying gifted identification procedures, the use of various published instruments in the identification process, and ways in which by far the most widely adopted definition of giftedness was the USOE or Marland definition. The IQ and Renzulli Three-Ring Definition were the only other two definitions adopted by more than 5% of the districts reporting. Four districts did not adopt a definition at all and 165 did not report a definition even when follow-up inquiries were issued. Not surprisingly, the area of general intellectual ability was the most widely adopted construct despite the vast changes in the literature on cognition, intelligence, and ability definition that have occurred in the fields of cognitive psychology and education over the past twenty years. Group tests of intelligence are still the most widely used assessment tools to assess this construct with individual tests such as the one of the many versions of *WISC* or *Stanford-Binet* used as supplemental instruments in "border-line" cases. Sadly, many school divisions are even using very out of date versions of instruments. For example, the use of the *WISC* is still cited in many school districts despite two revisions of that instruments.

Many instruments are being incorrectly used in the screening and identification process. Examples of some of the most egregious misuses identified include the use of achievement tests to measure general intellectual ability, psychomotor ability, and creativity; the use of general intelligence tests to measure specific intellectual abilities, abilities in the arts, and creativity; and the use of creativity to measure general intellectual ability. The *SRBCSS* were the most widely used rating scales and many variations of this instrument were submitted as locally developed identification instruments.

Most instruments reportedly used for the identification of underserved populations fell in the category of general intellectual ability with the *WISC-R* a prevalent choice of school districts adopting the top three definitions. This appeared to reflected a belief that individual assessments are less culturally biased. Little use was made of instruments to identify specific academic abilities and few provisions were made of special testing of minorities. Similarly, there were very few reports of special provisions for identifying students with handicapping conditions who might also be gifted.

Nearly all school districts used some form of checklist, rating scale, or portfolio assessment; however only one offered evidence of reliability or validity for the scales. While, the lack of available standardized assessment for assessment in some domains suggests that more subjective, authentic assessment take place, it is the responsibility of school districts to establish reliability and validity of any instruments used for screening and identifying students for gifted programs.

These findings led to the conclusion that many of the concerns with the identification process noted over a decade ago are still real concerns. Unfortunately, new tests and instruments have not found their way to the general practice of identification. However, there were several districts using innovative practice which were highlighted in the publication emanating from this project entitled *Contexts for Promise: Noteworthy Practices and Innovations in the Identification of Gifted Students* (Callahan, Tomlinson, & Pizzat, n.d.).

The following suggestions were offered for dealing with the issues this aspect of our study identified:

- Definition Construction
  - Develop explicit statements of traits, aptitudes, and behaviors associated with giftedness upon which identification decisions should be made.
  - Base definitions and operational practice on theory or conceptions of giftedness rather than on instruments.
  - Establish a close correspondence between definition and programming and curricular decisions.
- Professional Involvement
  - Involve professional educators, including classroom teachers, in the development of definitions, identification procedures, and programming at the local and state levels.
  - Train educators in current theory and practice in the fields of gifted education and test selection and test score interpretation.
- Instrument Availability
  - Provide educators with more information on the availability of a wide range of assessment tools.

Reliability and Validity of a Science Process Test

The *Diet Cola Test* was investigated as a potential instrument for identifying specific aptitudes in science. By using the original form of the instrument (Fowler, 1990) and a parallel form constructed for purposes of this study, we were able to investigate equivalent forms/stability, interrater, and intrarater reliability assessments of validity. Equivalent forms/stability over 10 weeks was .76 ($p < .01$). Interrater reliability for round one was .95 ($p < .01$) and .90 ($p < .01$) for round two. Intrarater reliability was significant for round 1 (.91; $p < .01$) and approached significance for round 2 (.89; $p < .08$). These reliability coefficients are comparable to other performance assessments.

Validity assessments suggested that the instrument did not have strong evidence of effectiveness as an identification tool, but was very effective as a program outcome evaluation tool. A significantly greater increase in scores was exhibited by gifted middle school age (rising grades 5 through 8) students enrolled in a course focusing on science process skills (30 hours of instruction) than students enrolled in other courses. No differences were found on this test across sex or racial/ethnic group.

Reliability of a *Peer Referral Form*

The *Peer Referral Form* was initially developed and studied by Anne Udall. Using the data from her study, we revised the form and investigated its reliability and gathered preliminary construct validity evidence (factor structure). The content validity of the instrument had been established by the author. This instrument was also judged to be reliable in consistency of nominations across two administrations of the instrument (a correlation of .85 between ratio of nominations to class size across two trials). The correlations of individual items in the specific areas of talent such as musical and artistic ability were exceptionally high for single item nominations. In both rounds of assessment, females were nominated significantly more often in the areas of general intellectual ability and dance; males were nominated more significantly in drawing ability. No significant differences were found between Hispanics and Whites across specific questions or clusters of questions. Further, there was a pattern of greater correlation among arts nominations than between arts items and general intellectual ability suggesting initial construct validity evidence.

A Teacher Screening Tool

A study of the *Teacher Search List,* developed by Susan Baum for assessing young gifted children provided data that the instrument was stable when used by middle school and high school teachers in assessing students, but elementary teacher's scores differed significantly between two rounds of assessment on the same students. These results suggest that validity studies are warranted on the use of the instrument at the secondary level, but further work must be done to establish reliability at the elementary level before further investigation of validity.

Summary

The field of gifted education has devoted much time, money, and energy to the process of identifying and labeling students as gifted. However, we find that practices in too many school districts still mirror old and outdated conceptions of giftedness and use of out-dated, inappropriate, and sometimes, invalid instruments. On the other hand, there are notable exceptions to the rule. Many school districts are attempting to expand their conceptions of giftedness, are experimenting with new procedures and new instruments, and are seeking guidance in establishing equitable and valid procedures. Further, our work with three new instruments suggested great potential for the use of performance assessment, peer nomination, and teacher observation scales in valid and reliable identification.

References

Alvino, J., McDonnel, R. C., & Richert, S. (1981). National survey of identification practices in gifted and talented education. *Exceptional Children, 48*, 124-132.

American Educational Research Association, American Psychological Association & National Council on Measurement in Education. (1985). *Standards for educational and psychological testing.* Washington, DC: American Psychological Association.

Armstrong, L. S. (1991, February 20). Draft O.C.R. memo outlines grounds for probing ability-grouping practices. *Education Week*, pp. 7-8.

Behuniak, P. (1992, April). *Improving validity through traditional and alternative assessments.* Paper presented at the annual meeting of the National Council of Measurement in Education, San Francisco, CA.

Brown, F. G. (1980). *Guidelines for test use.* Ames, IA: National Council on Measurement in Education.

Brown, S. W., Archambault, F. X., Jr., Westberg, K., Hallmark, B., & Zhang, W. (1992, June). *Identifying gifted students in the regular classroom: Results of a national survey.* Paper presented at the meeting of the American Psychological Society, San Diego, CA.

Burns, J. C., Okey, J. R., & Wise, K. C. (1985). Development of an integrated process skill test: TIPS II. *Journal of Research in Science Teaching, 22,* 169-177.

Callahan, C. M. (1991). The assessment of creativity. In N. Colangelo & G. A. Davis (Eds.), *Handbook of gifted education* (pp. 219-235). Boston: Allyn & Bacon.

Callahan, C. M., & Caldwell, M. S. (1993). Establishment of a national data bank on identification and evaluation instruments. *Journal for the Education of the Gifted, 16,* 201-218.

Callahan, C. M., Lundberg, A. C., & Hunsaker, S. L. (1993). The development of The Scale for the Evaluation of Gifted Identification Instruments (SEGII). *Gifted Child Quarterly, 37,* 133-137.

Callahan, C. M., Tomlinson, C. A., & Pizzat, P. M. (n.d.). *Contexts for promise: Noteworthy practices and innovations in the identification of gifted students.* Charlottesville, VA: The National Research Center on the Gifted and Talented, University of Virginia.

Carvajal, H., & McKnab, P. (1990). Relationships between scores of gifted students on Stanford-Binet IV and the SRA Educational Ability Series. *Gifted Child Quarterly, 34,* 80-82.

Case, R. (1974). Structures and strictures: Some functional limitations on the course of cognitive growth. *Cognitive Psychology, 6,* 544-574.

Chang, L. L. (1985). Who are the mathematically gifted elementary school children? *Roeper Review, 8,* 76-79.

Clark, B. (1988). *Growing up gifted: Developing the potential of children at home and at school* (3rd ed.). New York: Merrill.

Colangelo, N., & Davis, G. A. (1991). *Handbook of gifted education.* Boston: Allyn & Bacon.

Coleman, M. R., & Gallagher, J. J. (1992). *Report on state policies related to identification of gifted students.* Chapel Hill, NC: University of North Carolina, Gifted Education Policy Studies Program.

Council of State Directors of Programs for the Gifted. (1991). *The 1990 state of the states gifted and talented education report.* Augusta, ME: Author.

Culross, R. (1989). Measurement issues in the screening and selection of the gifted. *Roeper Review, 12,* 76-78.

Davis, G. A., & Rimm, S. B. (1994). *Education of the gifted and talented* (3rd ed.). Boston: Allyn & Bacon.

Deschamp, P., & Robson, G. (1984). Identifying gifted-disadvantaged students: Issues pertinent to system-level screening procedures for the identification of gifted children. *Gifted Education International, 2,* 92-99.

Dirks, J., & Quarfoth, J. (1981). Selecting children for gifted classes: Choosing for breadth vs. choosing for depth. *Psychology in the Schools, 18,* 437-449.

Ebmeier, H., & Schmulbach, S. (1989). An examination of the selection practices used in the talent search program. *Gifted Child Quarterly, 33,* 134-141.

Ehrlich, V. Z. (1986). Recognizing superior cognitive abilities in disadvantaged, minority, and other diverse populations. *Journal of Children in Contemporary Society, 18*(3-4), 55-70.

Fetterman, D. M. (1986). Gifted and talented education: A national test case in Peoria. *Educational Evaluation and Policy Analysis, 8,* 155-166.

Fowler, M. (1990). The diet cola test. *Science Scope, 13*(4), 32-34.

Frasier, M. M. (1987). The identification of gifted black students: Developing new perspectives. *Journal for the Education of the Gifted, 10,* 155-180.

Frasier, M. M. (1989). Poor and minority students can be gifted, too! *Educational Leadership, 46*(6), 16-18.

Gallagher, J. J. (1985). *Teaching the gifted child* (3rd ed.). Boston: Allyn & Bacon.

Gardner, H. (1983). *Frames of mind.* New York: Basic Books.

Germann, P. J. (1989). The processes of biological investigations test. *Journal of Research in Science Teaching, 26,* 609-625.

Goldberg, M. L. (1986). Issues in the education of gifted and talented children, Part I. *Roeper Review, 8,* 226-233.

Gronlund, N. E. (1985). *Measurement and evaluation in teaching* (5th ed.). New York: Macmillan.

Harrington, R. G. (1982). Caution: Standardized testing may be hazardous to the educational programs of intellectually gifted children. *Education, 103,* 112-117.

Harris, J. J., & Ford, D. Y. (1991). Identifying and nurturing the promise of gifted Black American children. *Journal of Negro Education, 60,* 3-18.

Hoepfner, R., Bastone, M., Ogilive, V. N., Hunter, R., Sparta, S., Grothe, C. R., Shani, E., Hufano, L., Goldstein, E., Williams, R. S., & Smith, K. O. (1976). *CSE Elementary School Test Evaluations.* Los Angeles: Center for the Study of Evaluation, UCLA Graduate School of Education.

Hoepfner, R., Hemenway, J., DeMuth, J., Tenopyr, M. L., Granville, A. C., Petrosko, J. M., Krakower, J., Silberstein, R., & Nadeau, M. (1972). *CSE-RSB Test evaluation: Tests of higher-order cognitive, affective, and interpersonal skills.* Los Angeles: University of California.

Hoepfner, R., Stern, C., & Nummedal, S. G. (1971). *CSE-ECRC preschool/kindergarten test evaluations.* Los Angeles: UCLA Graduate School of Education.

Hoge, R. D. (1986). Issues in the definition and measurement of the giftedness construct. *Educational Researcher, 17*(7), 12-16, 22.

Hoge, R. D. (1989). An examination of the giftedness construct. *Canadian Journal of Education, 14,* 6-17.

Houseman, W. (1987). *The 1987 state of the states gifted and talented education report.* Topeka, KS: Council of State Directors of Programs for the Gifted.

Hunsaker, S. L. (1991). *Teacher roles in multiple selection criteria systems for identifying gifted students.* Unpublished doctoral dissertation, University of Virginia, Charlottesville.

Hunsaker, S. L., & Callahan, C. M. (1993). Gifted program evaluation: Current practices. *Journal for The Education of the Gifted, 16,* 190-200.

Johnsen, S. (1986). Who are the gifted? A dilemma in search of a solution. *Education of the Visually Handicapped, 8,* 155-166.

Joint Committee on Standards for Educational Evaluation. (1981). *Standards for evaluations of educational programs, projects and materials.* New York: McGraw-Hill.

Juntune, J. (1982). Myth: The gifted constitutes a single, homogeneous group! *Gifted Child Quarterly, 26,* 9-10.

Khatena, J. (1982). *Educational psychology of the gifted.* New York: Wiley & Sons.

Kirschenbaum, R. J. (1983). Let's cut out the cut-off score in the identification of the gifted. *Roeper Review, 5*(4), 6-10.

Kontos, S., Carter, K. R., Ormrod, J. E., & Cooney, J. B. (1983). Reversing the revolving door: A strict interpretation of Renzulli's definition of giftedness. *Roeper Review, 6*, 35-39.

Lawson, A. (1976). Formal operations and field independence in a heterogeneous sample. *Perceptual and Motor Skills, 42,* 981-982.

Lock, R. (1989). Assessment of practical skills, part I: The relationship between component skills. *Research in Science and Technology, 7,* 221-233.

Ludeman, R. R. (1975). Development of the Science Processes Test (TSPT). *Dissertation Abstracts International, 36,* 203-A. (University microfilms no. 75-14, 783)

Lundberg, A. C., & Callahan, C. M. (1992). *Rough answers for the right questions: Issues in the reliability and validity of gifted identification instruments.* Charlottesville, VA: The National Research Center on the Gifted and Talented, University of Virginia.

Marland, S. P., Jr. (1972). *Education of the gifted and talented: Vol. 1. Report to The Congress of the United States by The U. S. Commissioner of Education.* Washington, DC: Department of Health, Education, and Welfare.

Masten, W. B. (1985). Identification of gifted minority students: Past research, future directions. *Roeper Review, 8,* 83-85.

Mather, N., & Udall, A. J. (1985). The identification of gifted underachievers using the Woodcock-Johnson Psycho-Educational Battery. *Roeper Review, 8,* 54-56.

McKenzie, J. A. (1986). The influence of identification practices, race and SES on the identification of gifted students. *Gifted Child Quarterly, 30,* 93-95.

McLeod, R. J., Berkheimer, G. D., Fyffe, D. W., & Robinson, R. W. (1975). The development of criterion-validated test items for four integrated science processes. *Journal of Research in Science Teaching, 12,* 415-421.

O'Connell-Ross, P. (1992, April). *NELS: 88. Gifted and talented education.* Paper presented at the annual meeting of the American Educational Research Association, Boston, MA.

O'Tuel, F. S., Ward, M., & Rawl, R. K. (1983). The SOI as an identification tool for the gifted: Windfall or washout? *Gifted Child Quarterly, 27,* 126-134.

Padilla, M. J., Cronin, L., & Tweist, M. (1985). *The development and validation of a test of basic process skills.* Paper presented at the annual meeting of the National Association for Research in Science Teaching, French Lick Springs, IN.

Piirto, J. (1992). *Understanding those who create.* Dayton, OH: Ohio Psychology Press.

Platow, J. (1984). *A handbook for identifying the gifted and talented.* Ventura: CA: National/State Leadership Institute on the Gifted/Talented.

Renzulli, J. S. (1982). Myth: The gifted constitutes 3/5% of the population! Dear Mr. Copernicus: We regret to inform you... *Gifted Child Quarterly, 26,* 11-14.

Renzulli, J. S. (1988). A decade of dialogue on the three-ring conception of giftedness. *Roeper Review, 11,* 18-25.

Renzulli, J. S., & Delcourt, M. A. B. (1986). The legacy and logic of research on the identification of gifted person. *Gifted Child Quarterly, 30,* 20-23.

Renzulli, J. S., Reis, S. M., & Smith, L. H. (1981). *The revolving door identification model.* Mansfield Center, CT: Creative Learning Press.

Richert, E. S. (1985a). Identification of gifted children in the United States: The need for pluralistic assessment. *Roeper Review, 8*, 68-71.

Richert, E. S. (1985b). The state of the art of identification of gifted students in the United States. *Gifted Education International, 3*(1), 47-51.

Riley, J. W. (1972). *The development and use of a group process test for selected processes of the Science Curriculum Improvement Study,* Unpublished doctoral dissertation. Michigan State University, East Lansing.

Roach, P., & Bell, D. (1986). Identifying the gifted: A multiple criteria approach. *Clearing House, 59,* 393-395.

Ronning, R., McCurdy, D., & Ballinger, R. (1984). Individual differences: A third component in problem-solving instruction. *Journal of Research in Science Teaching, 21,* 71-82.

Ross, J. A., & Maynes, F. J. (1983). Development of a test of experimental problem-solving skills. *Journal of Research in Science Teaching, 20,* 63-75.

Ross, J. A., & Robinson, F. (1987). The use of rule structure in teaching experimental design to secondary school students. *Science Education, 71,* 571-589.

Runco, M. (1986). The discriminant validity of gifted children's divergent thinking test scores. *Gifted Child Quarterly, 30,* 78-82.

Ryan, J. S. (1983). Identifying intellectually superior Black children. *Journal of Educational Research, 76,* 153-156.

Sapon-Shevin, M. (1987). Giftedness as a social construct. *Teachers College Record, 89,* 39-53.

Shaw, T. J. (1983). The effect of a process-oriented science curriculum upon problem solving activity. *Science Education, 67,* 615-623.

Shymansky, J. A., Yore, L. (1980). A study of teaching strategies, student cognitive development, and cognitive style as they relate to student achievement in science. *Journal of Research in Science Teaching, 17,* 369-382.

Sisk, D. A. (1988). Children at risk: The identification of the gifted among the minority. *Gifted Education International, 5,* 138-141.

Smith, K. A., & Welliver, P. W. (1990). The development of a science process assessment for fourth grade students. *Journal of Research in Science Teaching, 27,* 727-738.

Stanley, J. C., & Benbow, C. P. (1986). Youths who reason exceptionally well mathematically. In R. J. Sternberg & J. E. Davidson (Eds.), *Conceptions of giftedness* (pp. 361-387). New York: Cambridge University Press.

Sternberg, R. J. (1986). Identifying the gifted through IQ: Why a little bit of knowledge is a dangerous thing. *Roeper Review, 8,* 143-147.

Sternberg, R. J. (1990). What constitutes a "good" definition of giftedness? *Journal for the Education of the Gifted, 14,* 96-100.

Strawitz, B. (1984). Cognitive style and the acquisition and transfer of the ability to control variables. *Journal of Research in Science Teaching, 21,* 133-141.

Tannenbaum, A. J. (1983). *Gifted children: Psychological and educational perspectives.* New York: Macmillan.

Tannenbaum, A. J. (1986). Giftedness: A psychosocial approach. In R. J. Sternberg & J. E. Davidson (Eds.), *Conceptions of giftedness* (pp. 21-52). New York: Cambridge University Press.

Tannenbaum, R. S. (1968). The development of the *Test of Science Processes. Dissertation Abstracts International, 29,* 2159A. (University Microfilms No. 69-677)

Tobin, K. G., & Capie, W. (1982). Development and validation of a group test of integrated science processes. *Journal of Research in Science Teaching, 19,* 133-141.

Treffinger, D. J. (1982a). Demythologizing gifted education: An editorial essay. *Gifted Child Quarterly, 26,* 3-8.

Treffinger, D. J. (1982b). Myth: We need to have the same scores for everyone. *Gifted Child Quarterly, 26,* 20-21.

Treffinger, D. J. (1982c). Myth: Your sample must be the same as the population! *Gifted Child Quarterly, 26,* 15-16.

Treffinger, D. J., Renzulli, J. S., & Feldhusen, J. F. (1981). Problems in the assessment of creative thinking. In W. Barbe & J. S. Renzulli (Eds.), *Psychology and education of the gifted* (pp. 144-150). New York: Irvington.

Udall, A. J. (1987). Peer referral as a process for locating Hispanic students who may be gifted (Doctoral dissertation, University of Arizona, 1987). *Dissertation Abstracts International, 49,* 04A.

Walbesser, H., & Carter, H. (1970). The effect of test results of change in task and response format required by altering test administration from an individual to a group format. *Journal of Research in Science Teaching, 7,* 1-8.

Wiggins, G. (1993). Assessment: Authenticity, context, and validity. *Phi Delta Kappan, 75,* 200-214.

Williams, F. E. (1988). A magic circle. *Gifted Child Today, 11*(1), 2-5.

Appendices

Appendix A

Database Order Form

NATIONAL REPOSITORY OF INSTRUMENTS USED IN THE IDENTIFICATION AND EVALUATION OF GIFTED STUDENTS AND PROGRAMS

To order from the databases, you must supply us with a 10 X 13 self-addressed envelope with postage according to the following table:

Order Subtotal	Domestic Shipping
$0 - $10	$1.50
$10.01 - $25	$4.00
$25.01 or more	$7.70

Although there is no charge for database information at the present time, you need to figure cost in order to determine the appropriate shipping charge.

For a delivery to Canadian and all other non-U.S. addresses, please contact Carolyn Callahan at the address listed below.

Mail the envelope with a request for database information to:

The National Research Center on The Gifted and Talented
Data Base Requests
Curry School of Education, University of Virginia
Ruffner Hall, 405 Emmet Street
Charlottesville, VA 22903

THE NATIONAL
RESEARCH CENTER
ON THE GIFTED
AND TALENTED

UNIVERSITY OF VIRGINIA

NATIONAL REPOSITORY OF INSTRUMENTS USED IN THE IDENTIFICATION AND EVALUATION OF GIFTED STUDENTS AND PROGRAMS

What is the Repository?

The National Repository is a data base which allows searches for instruments used in the identification of gifted students or in the evaluation of gifted programs. We can provide lists of tests which others use to assess specific areas of giftedness or provide evaluations of tests which have been used for identification or evaluation. The repository also contains bibliographic summaries of articles, reviews and dissertations on identification and evaluation.

What is the source of information?

The University of Virginia has surveyed the literature on identification and evaluation and has solicited instruments from state departments of education and local school districts. Identification instruments have been categorized according to the type of giftedness assessed (general intellectual aptitude, creativity, mathematics aptitude, etc.), the respondent (student, teacher, parent, peer, etc.), the type of instrument (standardized test, locally developed checklists, etc.), and source. Evaluation instruments are categorized according to goals and objectives assessed, as well as the other categories mentioned above.

All identification and evaluation instruments in the data file (which are still in print or available) have been rated on validity, reliability, norms and other use factors.

Who should consult the Repository?

Any educator who wishes listings of available instruments, ratings of particular instruments, or bibliographic information on identification or evaluation procedures and instruments.

How do I get the information?

The information described above can be ordered by using the appropriate request form from those included with this description of the National Repository. Please use a separate request form for each search you desire. You may photocopy the request forms as needed.

What is the cost of information?

Prices vary according to type of search, but the cost covers reproduction costs only. If we have no information regarding your particular request, then you will not be charged.

The instrument lists, reviews and bibliographic information were prepared by The National Research Center for the Gifted and Talented under the Jacob K. Javits Gifted and Talented Students Education Act (Grant No. R206R00001) and administered by the Office of Educational Research and Improvement and the United States Department of Education. The findings do not reflect the positions or policies of the Office of Educational Research and Improvement or the United States Department of Education. Further, listing of a test does not constitute endorsement by the National Research Center.

ORDER SUMMARY PAGE

Please complete this page and send it, along with the individual request forms and your payment to

The National Research Center on the Gifted and Talented
Data Base Requests
Curry School of Education
405 Emmet Street
University of Virginia
Charlottesville, VA 22903

Search Request	Total Cost
Test Review Request: Identification	________
Test Information Request: Identification	________
Test Review Request: Evaluation	________
Test Information Request: Evaluation	________
Bibliographic Request: Identification	________
Bibliographic Request: Evaluation	________
Local Instrument Request: Identification	________
Local Instrument Request: Evaluation	________
Subtotal	________
Shipping Charges (see chart below)	________
Order Total	________

Checks payable to **NRC/GT – UVA**

Shipping Charges

Subtotal	Shipping Charges
$0 - $10	$1.50
$10.01 - $25	$4.00
$25.01 or more	$7.50

Material should be sent to:

THE NATIONAL RESEARCH CENTER ON THE GIFTED AND TALENTED
DATA BANK SEARCH REQUEST FORM

TEST REVIEW REQUEST: IDENTIFICATION

This form is to be used for requesting reviews of specific tests used in the identification of gifted and talented students. If you are seeking a listing of tests used in identification of gifted students, please use the form labelled **"TEST INFORMATION FORM: IDENTIFICATION"**.

Next to each category is the cost of the search. Please fill in that amount in the blank to the left of the category to indicate your desire for that search.

Complete Name of the Test: ______________________________
Test Publisher (if known): ______________________________
Form (if applicable): ______________________________

Area of giftedness, category of giftedness, or attribute for which you use or would like to use this instrument:

_______ general intellectual aptitude ($7.50)
_______ verbal/linguistic aptitude ($7.50)
_______ mathematical/logical aptitude ($7.50)
_______ scientific aptitude ($3.00)
_______ social sciences aptitude ($3.00)
_______ painting/drawing aptitude ($3.00)
_______ sculpting aptitude ($3.00)
_______ photography aptitude ($3.00)
_______ other visual arts ability ($3.00)
_______ musical ability ($3.00)
_______ dance ability ($3.00)
_______ acting ability ($3.00)
_______ other performing arts ability (please specify:________________) ($3.00)
_______ vocational education/practical arts ability ($3.00)
_______ inter/intra-personal ability/leadership/psychosocial ability ($7.50)
_______ creativity: ideation ($7.50)
_______ creativity: problem-solving ($7.50)
_______ task commitment/motivation ($3.00)
_______ psychomotor/bodily-kinesthetic ability ($3.00)

======= **Page Total** (Please transfer to Order Summary Page and return both pages.)

THE NATIONAL RESEARCH CENTER ON THE GIFTED AND TALENTED
DATA BANK SEARCH REQUEST FORM

TEST INFORMATION REQUEST: IDENTIFICATION

This form is to be used for requesting a list of tests used in the identification of gifted and talented students. Because our list is so extensive, we ask you to specify the types of tests you are looking for by completing this form. If you are seeking a review of a specific test, please use the form labelled **"TEST REVIEW REQUEST: IDENTIFICATION"**.

The list generated will contain all instruments that have been reported as used for the purpose stated. Evaluations of the instruments are not included in this list. If you wish specific evaluations of specific tests after receiving the list, you may request that information from us.

I: Select the area of giftedness, category of giftedness, or attribute you are seeking to use in the identification process.

Next to each category is the cost of the search. Please fill in that amount in the blank to the left of the category to indicate your desire for that search.

_______ general intellectual aptitude ($7.50)
_______ verbal/linguistic aptitude ($7.50)
_______ mathematical/logical aptitude ($7.50)
_______ scientific aptitude ($7.50)
_______ social sciences aptitude ($7.50)
_______ painting/drawing aptitude ($3.00)
_______ sculpting aptitude ($3.00)
_______ photography aptitude ($3.00)
_______ other visual arts ability ($3.00)
_______ musical ability ($3.00)
_______ dance ability ($3.00)
_______ acting ability ($3.00)
_______ other performing arts ability (please specify:________________) ($3.00)
_______ vocational education/practical arts ability ($3.00)
_______ inter/intra-personal ability/leadership/psychosocial ability ($3.00)
_______ creativity: ideation ($3.00)
_______ creativity: problem-solving ($3.00)
_______ task commitment/motivation ($3.00)
_______ psychomotor/bodily-kinesthetic ability ($3.00)

======= **Page Total** (Please transfer to Order Summary Page and return both pages.)

BEST COPY AVAILABLE

The sections below allow searches to be refined to better meet your needs. If you indicate specific areas of interest here, your search will be limited to instruments used in these specific ways.

II. Grade level:

______ Preschool
______ Primary (K-2)
______ Elementary (K-5)
______ Middle school (6-8)
______ High school (9-12)

III. Specific target population

______ African-American/Black
______ Hispanic/Latino
______ Native American/American Indian
______ Asian-American
______ Polynesian
______ Handicapped/Learning disabled
______ Handicapped/Hearing impaired
______ Handicapped/Visually impaired
______ Handicapped/Physically challenged
______ Other (please specify:____________________)

THE NATIONAL RESEARCH CENTER ON THE GIFTED AND TALENTED
DATA BANK SEARCH REQUEST FORM

TEST REVIEW REQUEST: EVALUATION

This form is to be used for requesting reviews of specific tests used in the evaluation of programs for gifted and talented students. If you are seeking a listing of tests used in evaluating gifted programs, please use the form labelled **"TEST INFORMATION FORM: EVALUATION"**.

Complete Name of the Test: ______________________________
Publisher: (if known): ______________________________
Form (if applicable): ______________________________

Goal(s) or objective(s) of the program that you are seeking to assess. The cost for each goal/objective assessed is $7.50.

_______ 1.

_______ 2.

_______ 3.

_______ 4.

======= **Page Total** (Please transfer to Order Summary Page and return both pages.)

THE NATIONAL RESEARCH CENTER ON THE GIFTED AND TALENTED
DATA BANK SEARCH REQUEST FORM

TEST INFORMATION REQUEST: EVALUATION

This form is to be used for requesting a list of tests used in the evaluation of programs for the gifted and talented. Because our list is so extensive, we ask you to specify the types of tests you are looking for by completing this form. If you are seeking a review of a specific test, please use the form labelled **"TEST REVIEW REQUEST: EVALUATION"**.

This list will contain all instruments that have been reported as used for the purpose stated. Evaluations of the instruments are not included in this list. If you wish specific evaluations of specific tests after receiving the list, you may request that information from us.

I: Indicate the objective(s) or goal(s) you are seeking to measure in the evaluation process. These may range from student outcome goals (e.g., Students are more independent as a result of involvement in the Quest program) to process goals (e.g., Teachers engage students in higher level thinking processes), to management goals (e.g., Parents are well-informed about the curriculum of the program). The cost is $7.50 per goal/objective assessed.

_______ 1.

_______ 2.

_______ 3.

_______ 4.

======= **Page Total** (Please transfer to Order Summary Page and return both pages.)

The sections below allow searches to be refined to better meet your needs. If you indicate specific areas of interest here, your search will be limited to instruments used in these specific ways.

II. Grade level:

______ Preschool
______ Primary (K-2)
______ Elementary (K-5)
______ Middle school (6-8)
______ High school (9-12)

III. Specific target population

______ African-American/Black
______ Hispanic/Latino
______ Native American/American Indian
______ Asian-American
______ Polynesian
______ Handicapped/Learning disabled
______ Handicapped/Hearing impaired
______ Handicapped/Visually impaired
______ Handicapped/Physically challenged
______ Other (please specify:__________________)

IV. Type of instrument

_______ Standardized, objective test
_______ Locally developed objective test
_______ Rating scale or checklist
_______ Portfolio
_______ Other (please specify: ______________________)

V. Expected respondent (Whom do you wish to gather information from?) (please check all that apply):

_____ Students
_____ Parents
_____ Teachers of the gifted
_____ Administrators
_____ School Board Members
_____ Regular classroom teachers
_____ Other

BEST COPY AVAILABLE

THE NATIONAL RESEARCH CENTER ON THE GIFTED AND TALENTED
DATA BANK SEARCH REQUEST FORM

BIBLIOGRAPHIC INFORMATION: IDENTIFICATION

This form is to be used for requesting annotated bibliographies on procedures and tests used in the identification of gifted and talented students. Because our list is so extensive we ask you to specify the types of information you are looking for by completing this form. If you are seeking a review of specific tests, please use the form labelled "**TEST REVIEW REQUEST: IDENTIFICATION.**" If you are seeking a list of such tests, please use the "**TEST INFORMATION REQUEST: IDENTIFICATION.**"

I: Select the definition of giftedness, category of giftedness, or attribute about which you are seeking information. The cost for each search is indicated to the right of the definition. Please write the information in the line to the left of each search desired.

_______ general intellectual aptitude ($10.00)
_______ verbal/linguistic aptitude ($10.00)
_______ mathematical/logical aptitude ($10.00)
_______ scientific aptitude ($7.50)
_______ social sciences aptitude ($7.50)
_______ painting/drawing aptitude ($3.00)
_______ sculpting aptitude ($3.00)
_______ photography aptitude ($3.00)
_______ other visual arts ability ($3.00)
_______ musical ability ($3.00)
_______ dance ability ($3.00)
_______ acting ability ($3.00)
_______ other performing arts ability (please specify:_________________) ($3.00)
_______ vocational education/practical arts ability ($3.00)
_______ inter/intra-personal ability/leadership/psychosocial ability ($3.00)
_______ creativity: ideation ($7.50)
_______ creativity: problem-solving ($7.50)
_______ task commitment/motivation ($3.00)
_______ psychomotor/bodily-kinesthetic ability ($3.00)

======= **Page Total** (Please transfer to Order Summary Page and return both pages.)

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THE NATIONAL RESEARCH CENTER ON THE GIFTED AND TALENTED
DATA BANK SEARCH REQUEST FORM

BIBLIOGRAPHIC INFORMATION: EVALUATION

This form is to be used for requesting annotated bibliographies on procedures and tests used in the evaluation of programs for gifted and talented students. Because our list is so extensive we ask you to specify the types of information you are looking for by completing this form. If you are seeking a review of a specific tests, please use the form labelled **"TEST REVIEW REQUEST: EVALUATION"**, if you are seeking a list of such tests, please use the **"TEST INFORMATION REQUEST: EVALUATION"**.

I. State the type of information you are seeking by filling in the cost next to each item for which you want information:

_______ Information on instrumentation ($7.50)
_______ Information on evaluation designs ($7.50)
_______ Information on evaluation issues ($7.50)
_______ Information on evaluation utility ($7.50)
_______ Information on needs assessments ($7.50)

======= **Page Total** (Please transfer to Order Summary Page and return both pages.)

II: State the objective or goal you are seeking to measure in the evaluation process. These may range from student outcome goals (e.g., Students are more independent as a result of involvement in the Quest program) to process goals (e.g., Teachers engage students in higher level thinking processes), to management goals (e.g., Parents are well-informed about the curriculum of the program). Please state no more than one goal per request. Use a separate order form for each goal for which you want information.

The sections below allow searches to be refined to better meet your needs. If you indicate specific areas of interest here, your search will be limited to instruments used in these specific ways.

III. Grade level

______ Preschool
______ Primary (K-2)
______ Elementary (K-5)
______ Middle school (6-8)
______ High school (9-12)

III. Specific target population

______ African-American/Black
______ Hispanic/Latino
______ Native American/American Indian
______ Asian-American
______ Polynesian
______ Handicapped/Learning disabled
______ Handicapped/Hearing impaired
______ Handicapped/Visually impaired
______ Handicapped/Physically challenged
______ Other (please specify:____________________)

THE NATIONAL RESEARCH CENTER ON THE GIFTED AND TALENTED
DATA BANK SEARCH REQUEST FORM

LOCAL INSTRUMENT REQUEST: IDENTIFICATION

This form is to be used when requesting copies of instruments developed by individual local school divisions for use in their own identification process. These school divisions have generously allowed their materials to be shared through the NRC/GT Data Banks. If you wish lists of standardized instruments used by schools, please use the form **"TEST INFORMATION REQUEST: IDENTIFICATION."**

In order to provide you with the most helpful information, our collection of instruments is divided according to the area of giftedness assessed. These divisions are further categorized according to special populations (eg, LD/Gifted) and respondent (eg, teacher or parent). Instruments are available in sets of five for $5.00 or a set of ten for $10.00. For some areas of giftedness, we may not be able to provide ten instruments; these are marked **"FIVE ONLY"** on the list below.

I: Select the area of giftedness, category of giftedness, or attribute you are seeking to use in the identification process. In the line to the left of the attribute, write $5.00 if you wish five instruments or $10.00 if you wish 10 instruments. If you wish to limit your search to specific grade levels, special populations, or respondent, be sure to indicate your choice(s) on the next page.

_____ general intellectual aptitude
_____ verbal/linguistic aptitude
_____ mathematical/logical aptitude
_____ scientific aptitude
_____ social sciences aptitude
_____ painting/drawing aptitude -- **FIVE ONLY**
_____ sculpting aptitude -- **FIVE ONLY**
_____ photography aptitude -- **FIVE ONLY**
_____ other visual arts ability (Please specify:_________________) -- **FIVEONLY**
_____ musical ability -- **FIVE ONLY**
_____ dance ability -- **FIVE ONLY**
_____ acting ability -- **FIVE ONLY**
_____ other performing arts ability (please specify:_________________) -- **FIVE ONLY**
_____ vocational education/practical arts ability -- **FIVE ONLY**
_____ inter/intra-personal ability/leadership/psychosocial ability
_____ creativity: ideation
_____ creativity: problem-solving
_____ task commitment/motivation -- **FIVE ONLY**
_____ psychomotor/bodily-kinesthetic ability -- **FIVE ONLY**

======= **Page Total** (Please transfer to Order Summary Page and return both pages.)

BEST COPY AVAILABLE

The sections below allow searches to be refined to better meet your needs. If you indicate specific areas of interest here, your search will be limited to instruments used in these specific ways.

II. Grade level

______ Preschool
______ Primary (K-2)
______ Elementary (K-5)
______ Middle school (6-8)
______ High school (9-12)

III. Specific target population

______ African-American/Black
______ Hispanic/Latino
______ Native American/American Indian
______ Asian-American
______ Polynesian
______ Handicapped/Learning disabled
______ Handicapped/Hearing impaired
______ Handicapped/Visually impaired
______ Handicapped/Physically challenged
______ Other (please specify:____________________)

IV. Respondent

_____ Teacher
_____ Parent
_____ Student/Peer
_____ Guidance Counselor
_____ School Psychologist
_____ Practicing Professional
_____ Community Leader

THE NATIONAL RESEARCH CENTER ON THE GIFTED AND TALENTED
DATA BANK SEARCH REQUEST FORM

LOCAL INSTRUMENT REQUEST: EVALUATION

This form is to be used when requesting copies of instruments developed by individual school divisions for use in their own evaluation process. These school divisions have generously allowed their materials to be shared through the NRC/GT Data Banks. If you wish lists of standardized instruments used by schools, please use the form "**TEST INFORMATION REQUEST: EVALUATION.**"

In order to provide you with the most helpful information, our collection of instruments is divided according to the area of giftedness the program emphasizes. These divisions are further categorized according to various aspects of the evaluation process (eg, formative or summative evaluation or the instrument respondent). Instruments are available in sets of three for $3.00 or a set of six for $6.00. For some areas of giftedness, we may not be able to provide six instruments: these are marked "**THREE ONLY**" on the list below.

I: Select the area of giftedness, category of giftedness, or attribute you are emphasizing in the evaluation process. In the line to the left of the attribute, write $3.00 if you wish three instruments or $6.00 if you wish 6 instruments. If you wish to limit your search to specific grade levels, special populations, or respondent, be sure to indicate your choice(s) on the next page.

_______ verbal/linguistic achievement
_______ mathematical/logical achievement
_______ scientific achievement
_______ social sciences achievement
_______ visual arts ability (Please specify:_______________________)
_______ performing arts ability (please specify:____________________)
_______ vocational education/practical arts ability -- **THREE ONLY**
_______ self-concept/self-esteem -- **THREE ONLY**
_______ attitude towards school -- **THREE ONLY**
_______ creativity: ideation
_______ creativity: problem-solving
_______ task commitment/motivation -- **THREE ONLY**
_______ critical thinking -- **THREE ONLY**

======= **Page Total** (Please transfer to Order Summary Page and return both pages.)

The sections below allow searches to be refined to better meet your needs. If you indicate specific areas of interest here, your search will be limited to instruments used in these specific ways.

II. Grade level

______ Preschool
______ Primary (K-2)
______ Elementary (K-5)
______ Middle school (6-8)
______ High school (9-12)

III. Respondent

_____ Teacher
_____ Parent
_____ Student/Peer
_____ Administrator
_____ School Psychologist
_____ Community Leader
_____ Other (Please specify: ______________________________)

IV. Evaluation Type

_____ Formative
_____ Summative
_____ Needs Assessment

V. Program Type

_____ Pullout
_____ Within Class
_____ Special Class
_____ Special School
_____ After School/Saturday/Summer

VI. Program Aspect

_____ Specific Subject Area Content Knowledge
_____ Process Skills
_____ Student Products
_____ Social and/or Affective Effects

Appendix B

Abridged Sample Database Output From the National Repository of Identification Instruments

File Number	BUR-NRC-041
Bibliographic Entry	Burns, J.M., Matthews, F.N., & Mason, A. (1990). Essential steps in screening and identifying preschool gifted children. *Gifted Child Quarterly*, *34*(3), 102-103.
Ident. Instruments	1) Preschool Gifted Screening Instrument (Matthews & Burns, 1987); 2) Hess School Readiness Scale (1925); 3) Test of Early Reading Ability; 4) Woodcock-Johnson Psycho-educational Battery
Instrument Type	1) Rating Scale
Instr. Respondent	1) Parent; Teacher
Response Strategy	1) ?
Instrument Uses	The Preschool Gifted Screening Instrument was developed to provide a standardized screening instrument for giftedness in 3 to 5 year olds with appropriate supportive reliability and validity information. The instrument was developed as part of an overall feasible process that can be easily implemented to identify gifted preschoolers.
Gifted Definition	General IQ
Gifted Construct	General Intellectual Ability
School Levels	Pre-School (P-K)

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Instrument Assess.	The rating scale was developed in 1984 based on responses of over 200 parents of gifted and non-gifted 3 to 5 year olds. The scale contained questions regarding childrens' behaviors that were characteristic of 1) gifted, 2) all children, and 3) neither gifted nor non-gifted children. Items pertaining to gifted behaviors were clustered into 3 major constructs. Moderate to high internal consistency reliability coefficients (r=.65, r=.78, r=.85) were found by Cronbach's Alpha for parent responses of the 3 constructs. Items characteristic of all preschoolers were included in the final scale to mask the scorable items. Predictive validity of the rating scale was established when it was determined that the cut-off scores for the scale would screen out children who had IQs below average to slightly below average and retain all children who would eventually qualify for the gifted program. Specific items on parent rating scale that measured behaviors not observed in either gifted or non-gifted were scored to examine the validity of parents' responses. Predictive validity again established by comparison of scores on preschool screening instrument to IQ scores on Hess School Readiness Scale. The cut-off score for the screening instrument screened out children with IQ < 120 and retained all children above who exhibited ability to qualify for the gifted program. Screening and evaluation process reduced need for formal student evaluations. (Only 6% of original 965 children in study actually qualified for the preschool gifted program.) This appears to be a good model (effective and utilitarian) for screening and selection of gifted preschoolers. It gives comprehensive picture of how child functions in preschool environment, home environment, and in a testing situation.
Reliability	Stability/Test-Retest
Validity	Criterion: Predictive
Underserved Issues	The process does not address the identification of disadvantaged bright preschoolers. Authors do claim that screening process appears to be racially fair. 73% Black, 70% White, 68% Other of chilren who passed screening and did not qualify for the program. For children who passed screening and did qualify, the percentages were: 27% Black, 30% White, 32% Other.
Ethnic/Minority	African-American/Black, Other Ethnic/Minority Groups
Language	
Population	

Socio-Economic	
Gender	
Handicapped	
Achievement	
Cross-References	Burns, J.M. (1985). 1984-85 Preschool gifted screening and evaluation procedure: Summary of effectiveness and recommendations. Unpublished report. East Baton Rouge Parish School System. Baton Rouge, LA. Hess, R.J. (1975). Hess school readiness scale. Johnstown, PA: Mafex Associated and Inc. Mathews, F.N., & Burns, J.M. (1987). An assessment challenge: Developing screening procedures for the preschool gifted child. Journal for the Education of the Gifted, 10, 215-225. Reid, D.K., Hresko, W.P., & Hammill, D.D. (1981). The test of early reading ability. Austin, TX: Pro-Ed. Robinson, H.B., Roedell, W.C., & Jackson, N.E. (1979). Early identification and intervention. In A.H. Passow (Ed.). The gifted and talented: Their education and development. 78th Yearbook of the National Society for the Study of Education. Part I (pp. 138-154). Chicago, IL: The University of Chicago Press. Woodcock, R. (1975). Development and standardization of the Woodcock-Johnson psycho-educational battery. Hingham, MA: Teaching Resources.
File Number	HAR-NRC-060
Bibliographic Entry	Hartsough, L. S., Elias, P., & Wheeler, P. (1977). The validation of a nonintellectual assessment procedure for the early screening of gifted and EMR pupils. (Report No. ETS-PR-77-15). Princeton, NJ: Educational Testing Service. (ERIC Document Reproduction Service No. ED 178546).
Ident. Instruments	The Nonintellectual Assessment of Effective School Behavior (Bower & Lambert, 1961) This includes three instruments: 1) The Pupil Behavior Rating Scale; 2) The Who Could This Be Game; [a peer instrument] 3) A Picture Game [self-perception instrument]
Instrument Type	1) Rating Scale 2) Rating Scale 3) Checklist
Instr. Respondent	1) Teacher 2) Student 3) Student
Response Strategy	1) Questionnaire 2) Questionnaire 3) Questionnaire

Articles on Identification: General Intellectual/African-American

NRC G/T--University of Virginia

Instrument Uses	The Nonintellectual Assessment of Effective School

	Behavior was designed for the purpose of identifying children whose emotional and behavioral symptoms are associated with learning handicaps. Intellectual findings in related studies have indicated that the procedure might have some potential in the screening of both gifted and EMR students. A score of 144 or greater was used to define giftedness.
Gifted Definition	General IQ
Gifted Construct	General Intellectual Ability
School Levels	Pre-School (P-K)

Articles on Identification: General Intellectual/African-American

NRC G/T--University of Virginia

Instrument Assess.	Research of Nonintellectual Assessment of Effective School Behavior has demonstrated concurrent validity (Bower & Lambert, 1961b) and long term predictive

validity (Lambert, 1972) on children with learning-related handicaps.

This study included teachers and students in 25 kindergartens and first grades in five California school districts. The study investigated the validity/feasibility of using the Nonintellectual Assessment materials for initial screening of gifted and of EMR pupils.

A total of 536 pupils in 25 classrooms participated in the project. The sample included all SES levels (40.5% at lower/middle), and over 27% of the sample were from ethnic/minority groups. English was the second language for 13% of the sample. 72.6% of the sample was white.

The NAESC instruments (3) were completed for each student, and the Slosson Intelligence Scale was also administered to each student. (Teachers and examiners participating received training from the project staff.) Participating teachers were provided with the results of the study to help obtain a measure of construct validity for the screening instruments by determining the extent of congruence between project results and teacher perception.

For gifted students, frequency counts and means and standard deviations were computed for the IQ scores to identify possible gifted children for criterion groups. Then discriminant analysis was performed to determine which screening variables differentiated between groups. The six scores from screening materials used in discriminant analysis were: 1) Teacher Rating I (Classroom Adaptation), Teacher Rating II (Interpersonal Adjustment), 3) Teacher Rating III (Intrapersonal Adjustment) 4) Peer Rating 4) Self-Rating I (Total number negative nominations), 5) Self-Rating II (Total number happy pictures chosen).

(Because of the abnormally high mean on SIT scores [113.09], alternative strategy establishing cut-off scores 2 sd's above and below the obtained mean was implemented to obtain groups for discriminant analysis).

Results of study showed that:

1) Screening materials tend to overpredict or include too many children as candidates for gifted and EMR program placement when compared to IQ scores.

Articles on Identification: General Intellectual/African-American

NRC G/T--University of Virginia

Screening materials identified 79% of students whose IQ scores suggested them as candidates for a gifted program. None of the children whose IQ scores suggested gifted potential were nominated as gifted by their teachers. Teacher judgment appears far too

	restrictive for identifying gifted when compared to IQ scores. 2) Teachers tend to underpredict or exclude too many children as candidates for gifted and EMR program placement when compared to IQ scores. 3) The screening materials appear to be less vulnerable to SES status and ethnic or bilingual background than IQ scores.
Reliability	
Validity	Criterion: Concurrent; Criterion: Predictive
Underserved Issues	Findings suggest that use of ability test results for children whose dominant language is not English is questionable when the score is from a test administered in English.
Ethnic/Minority	African-American/Black; Hispanic-American; Asian-American; Polynesian; Other Ethnic/Minority Groups
Language	Limited English Speaking
Population	
Socio-Economic	Low SES
Gender	
Handicapped	Learning Disabled
Achievement	
Cross-References	1) Bower, E. M. & Lambert, N. M. (1961b) A process for in-school screening of children with emotional handicaps: Technical report for school administrators and teachers. Princeton, NJ: Educational Testing Services. 2) Lambert, N.M. (1963). The development and validation of a process for screening emotionally handicapped children (USOE Cooperative Research Project 1186). Sacremento:CA California State Department of Education. 3) Lambert, N. M. (1974). The development of instruments for the nonintellectual assessment of effective school behavior (Technical Report Supplement). Unpublished manuscript, University of California, Berkeley. 4) Lambert, N. M. (1977). Instituting new early screening procedures for the Newark Unified School District. Final Report. University of California, Berkeley.

Articles on Identification: General Intellectual/African-American

NRC G/T--University of Virginia

File Number	HAR-NRC-061
Bibliographic Entry	Harrison, P. L., Ittenbach, R. F., & Taylor, L. R. (1988). K-ABC Mental Processing profiles for gifted referrals. Paper presented at the Annual Meeting of the Mid-South Educational Research Association, Louisville, KY. (ERIC Document Reproduction Service No. ED 305775)

Ident. Instruments	Kaufman Assessment Battery for Children (K-ABC)
Instrument Type	Standardized Ability Test
Instr. Respondent	Student
Response Strategy	Test, Group
Instrument Uses	Previous studies of the K-ABC have reported inconsistent Sequential-Simultaneous score differences for gifted children (Mealor & Curtis, 1985; McCallum, Karnes, and Edwards, 1984). This study utilized ipsative comparisons to determine if individual children have significantly higher Sequential or Simultaneous scores or relative strengths and weaknesses for subtests.
Gifted Definition	General IQ
Gifted Construct	General Intellectual Ability
School Levels	Elementary (K-6)

Instrument Assess.	The study investigated the performance of intellectually gifted children on the mental processing composite of the K-ABC. The sample of 54 children were administered the Sequential and Simultaneous scales of the K-ABC. (25 male, 29 female; 21 black, 33 white). A t-test for dependent observations was used to determine if there was a significant difference between Sequential and Simultaneous scores. For each subject, ipsative

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comparisons were conducted to determine if his/her Sequential and Simultaneous scores differed significantly.

The mean Sequential score was higher than the mean Simultaneous score, but the difference was not significant (*t* (53) = 1.47, *p*> .05). Therefore it was not possible to hypothesize that gifted referrals and children placed in gifted programs differ in their K-ABC score patterns.

Ipsative comparisons indicate that the majority (57%) exhibited no statistically significant differences between their Sequential and Simultaneous scores. When a significant difference did occur between the two scales, it was far more likely for the subject to exhibit a strength on the Sequential scale (31% of the sample had a significant Sequential strength compared to only 11% who had a Simultaneous strength).

The pattern of mean subtest performance is inconsistent with previous research. The easiest and most difficult subtests in the present sample do not support the characteristic pattern suggested by Kamphaus and Reynolds (1988) of better performance by gifted children on subtests with higher "g" loadings.

The results of this study did *not* strongly support a characteristic profile on the K-ABC for children referred for gifted programs.

Reliability	
Validity	
Underserved Issues	
Ethnic/Minority	African-American/Black
Language	
Population	
Socio-Economic	
Gender	
Handicapped	
Achievement	

Articles on Identification: General Intellectual/African-American

NRC G/T--University of Virginia

Cross-References	1) Barry, B. J. (1983). *Validity of the Kaufman Assessment Battery for Children compared to the Stanford-Binet, Form L-M, in the identification of gifted nine and ten-year-olds*. Unpublished master's thesis, National College of Education, Chicago, IL. 2) McCallum, R. S., Karnes, F. A., & Edwards, R. P. (1984). The test of choice for assessment of gifted children: A comparison of the K-ABC, WISC-R, and Stanford-Binet. *Journal of Psychoeducational Assessment*, *2*, 57-63. 3) Mealor, D. J., & Curtis, D. J. (1985, April).

	Comparative analysis of the K-ABC and the WISC-R for selected minority students. Paper presented at the meeting of the National Association of School Psychologists, Las Vegas, NV. 4) Naglieri, J. A., & Anderson, D. F. (1985). Comparison of the WISC-R and K-ABC with gifted students. *Journal of Psychoeducational Assessment*, *3*, 175-179.
File Number	LAM-DAI-031
Bibliographic Entry	Lamar, G. (1985). The Raven or I-E Locus as measures of high ability. (Doctoral dissertation, University of Denver). *Dissertation Abstracts International*.
Ident. Instruments	1) Raven Standard Progressive Matrices; 2) The Rotter I-E Scale
Instrument Type	
Instr. Respondent	1) Student
Response Strategy	
Instrument Uses	The gifted definition is described as "academically above average"- above grade level competency as defined by the Denver Public Schools; 85th percentile on CTBS, 3.0 GPA, & teacher recommendation. The study was conducted to evaluate the usefulness of additive testing for high achievement ability among gifted students. A non-verbal test of reasoning and locus of control test were used to draw conclusions about gifted placement, especially for culturally diverse groups.
Gifted Definition	Other
Gifted Construct	General Intellectual Ability
School Levels	High School (9-12)

Instrument Assess.	The study employed a nonequivalent control group design. Both accelerated and regular groups were administered the non-verbal intelligence test and locus of control scale, with neither group being randomly assigned. The selection of this design was based upon the purpose of the study- to use the tests to help identify students enrolled in regular classes who were overlooked based upon their performance on traditional measures of achievement. The dependent variable for both accelerated and regular groups was program enrollment, and the independent variables were the non-verbal intelligence test and the locus of control scale.

Official school records, including CTBS scales, GPA, sex, age, and ethnicity were obtained for correlational analysis.
Test validity was assumed for CTBS, Raven, and Rotter for accurate student assessment.
Data were analyzed using correlational analysis (Pearson product-moment correlation) to determine significant differences between groups. Significant differences were all determined using analysis of variance procedure. Post-hoc T-tests were used to determine magnitude of differences between groups.
180 students were in the study- 60 Anglo, 60 Hispanic, & 60 Asian. (50% of each group were accelerated, 50% were not). Tests were hand-scored and rescored by a trained professional.
Data revealed that GPA and CTBS scores were more significantly related to school achievement than Raven or Rotter scores.
Accelerated program membership was related to high achievement on all measures given.
No support was found that Raven tests are less culturally biased than CTBS for assessing culturally diverse student groups.
Internal locus of control was not highly related to high achievement in culturally diverse groups.
Traditional methods of achievement (CTBS, GPA) correlated particularly well with accelerated program membership. If students were overlooked, the Raven and Rotter failed to identify them.

Reliability
Validity

Articles on Identification: General Intellectual/African-American

NRC G/T--University of Virginia

Underserved Issues	Multi-criterion selection procedures have been utilized effectively to help counterbalance the disequalizing effect of culture or disadvantaged group membership when assessing giftedness (Goodman & Frechtling, 1980). Problems of assessment have been compounded by the high degree of diversity among gifted populations (Khatena, 1982). Bruch, 1975- 4 areas of concern for IQ and achievement among diverse populations: 1) IQ of minorities may be underestimated by IQ tests. 2) Personalities of culturally different students have not been taken into consideration by current procedures. 3) Negative attitudes of educators toward minorities

	have created poor situational opportunities for assessment and measurement. 4) Failure of educators to develop a multi-intellectual approach to the problem of assessment. Stanley (1984)- appropriateness of instrument used to identify gifted for the individual or group to be tested must be carefully scrutinized before evaluation can be useful. The Raven test was 83% effective as a predictive measure of intelligence when compared with the WISC-R and SOI when used for gifted identification (Pearce, 1983). In high school students given the Rotter scale, Anglos were the most internal and Indian and Blacks were the most external (Graves, 1961).
Ethnic/Minority	African-American/Black; Hispanic-American; Asian-American; Native American; Polynesian
Language	
Population	Urban
Socio-Economic	Low SES
Gender	
Handicapped	
Achievement	

Articles on Identification: General Intellectual/African-American

NRC G/T--University of Virginia

Cross-References	1) Battle, E. S., & Rotter, J. B. (1963). Children's feelings of personal control as related to social class and ethnic groups. *Journal of Personality*, *31*, 482-490. 2) Breland, H. M. (1974, April). *An investigation of cross-cultural stability in mental test items*. Paper from Educational Testing Service, presented at the Annual Meeting of the American Educational Research Association, Chicago, IL. 3) Brickman, W., & Lehrer, S. (Eds.). (1972). *Education and the many facets of the disadvantaged: Cultural and historical perspectives*. New York: John Wiley & Sons. 4) Cleary, T. A. (1966). *Test bias: Validity of the scholastic aptitude test for Negro and White students at integrated colleges*. College Entrance Examination Board Research and Development Report No. 18.

Princeton, NJ: Educational Testing Service.

5) Edwards, J. E., & Waters, L. K. (1981). Relationships of locus of control to academic ability, academic performance, and performance-related attributions. Educational and Psychological Measurement, 41, 529-531.

6) Friend, R. R. (1972). The relationaship between academic achievement and locus-of-control in middle and lower socioeconomic level Black, White and Mexican-American high school students in an urban school setting. Doctoral dissertation, University of Houston.

7) Hartlase, L. C., et al. (1976, July). Culturally biased and culture-fair tests correlated with school performance in culturally disadvantaged children. Journal of Clinical Psychology, 32(3), 658-660.

8) Harvey, S., & Seely, K. R. (1984, Spring). An investigation of the relationships among intellectual and creative abilities, extracurricular activities, achievement, and giftedness in a delinquent population. Gifted Child Quarterly, 28(2), 73-79.

9) Hoffman, H. V. (1983). Regression analysis of test bias in the Raven's Progressive Matrices for Anglos and Mexican-Americans. Dissertation Abstracts International. Doctoral dissertation, The University of Arizona.

10) Meeker, M. (1973). Patterns of giftedness in Black, Anglo, and Chicano boys ages 4-5 and 7-9. Paper presented to First National Conference for Disadvanaged Gifted, Ventura, CA.

11) Mercer, J. & Lewis, J.F. (1978). Using the system of multicultural pluralistic assessment (SOMPA) to identify the gifted minority child. In A. Y. Baldwin, G. H. Gear, & L. J. Lucito (Eds.), Educational planning for the gifted. Reston, VA: Council for Exceptional Children.

12) Mick, D. B. (1982, April). Assessment procedures and enrollment patterns of Hispanic students in special education and gifted programs. Final Report. Doctoral dissertation, Ohio State University.

13) Milan, M. L. (1983). Academic readiness in ethnically diverse children. Unpublished doctoral dissertation, University of Denver.

14) Ramsay, G. L. (1982). An empirical investigation into the multidimensionality of the construct of intrinsic motivation. Dissertation Abstracts International, York University (Canada), vol 43/05-B.

15) Skager, R., & Fitz-Gibbons, C. (1973). Mentally gifted disadvantaged students: An investigation of methods of identification, including the use of

"culture fair" tests. at the eighth grade level. Final report, National Center for Educational Research and Development, Washington, D.C. Regional Research Program.

16) Wheeler, G., et al. (1982-83). *An evaluation of a bilingual program with bilingual paraprofessionals serving as the primary instructional personnel*. Portales, NM: Educational Research and Consulting Associates.

17) Wilson, J. R., DeFries, J. C., McCLearn, G. E., Vandenberg, S. G., & Rashad, M. N. (1975). Cognitive abilities : Use of family data as a control to assess sex and age differences in two ethnic groups. *International Journal of Aging and Human Development*, *6*, 261-276.

File Number	MAT-NRC-054
Bibliographic Entry	Matthews, D. J. (1988). Raven's Matrices in the identification of giftedness. *Roeper Review*, *10*(3), 159-162.
Ident. Instruments	Raven's Matrices Tests: Standard Progressive Matrices (SPM; Raven, 1938); Coloured Progressive Matrices (CPM; Raven, 1947a); Advanced Progressive Matrices (APM; Raven, 1960).
Instrument Type	
Instr. Respondent	
Response Strategy	

Articles on Identification: General Intellectual/African-American

NRC G/T--University of Virginia

Instrument Uses	Raven's matrices are based on Spearman's "g factor" theory of intelligence. They were developed as a valid means of "assessing a person's present capacity for clear thinking and accurate intellectual work." CPM were developed for use with young children. APM were developed to refine the differentiation at the upper level of the test scores of the SPM.
Gifted Definition	General IQ
Gifted Construct	General Intellectual Ability
School Levels	

Appendix C

Technical Manual for the *Scale for the Evaluation of Gifted Identification Instruments* (*SEGII*)

Technical Manual
The Scale for the Evaluation of Gifted Identification Instruments (SEGII)

I. Introduction: The Rationale for SEGII

Given the recent various conceptions of giftedness, the plethora of schemes and procedures for identifying students, and the resulting confused current state of the art concerning the reliability and validity of instruments used for the identification of gifted students, it is no wonder that local educational administrators and teachers are perplexed when faced with the prospect of making informed choices for gifted identification instruments. The most common problem concerns the reliability and validity of these instruments in regard to uses in local school districts.

There has been little done to provide comprehensive reviews and assessments of instruments for the specialized purpose of identifying gifted and talented students. Although there have been some evaluation studies conducted (see Gallagher, Weiss, Oglesby, & Thomas, 1983) and collections of identification instruments (Alvino, McDonnel & Richert, 1981) it is significant that there still is little information available, other that found in general test reviews, concerning the reliability and validity of these instruments in regard to populations of gifted students. In addition, many instruments which are not published or are locally developed are most often not included in any "collections" that may be available to local schools, and these collections do not generally include non-traditional means of assessment such as portfolio reviews, peer ratings, evaluations of student products, etc. In response to this pervasive need, a major part of the mission of The National Research Center on The Gifted and Talented (NRC/GT) was specially devoted toward the development of an instrument that would assess existing gifted identification instruments for the variety of situations in which they might be used.

The Scale for the Evaluation of Gifted Identification Instruments (SEGII) was designed by project staff at the University of Virginia site of the NRC/GT with the intent to provide a comprehensive evaluation of the effectiveness, appropriateness, and overall value of all currently available instruments and procedures used for the purpose of identifying or screening for gifted students. An additional special emphasis was placed on the use of instruments in regard to underserved and special populations of gifted students. These ratings of instruments for specific uses and different conceptions of giftedness were assembled into a National Repository of Instruments that serves as a resource for local school districts desiring information concerning the reliability, validity, utility, and appropriateness of an instrument for their particular needs.

II. Uses of SEGII

The evaluation of instruments and procedures used for identification of gifted students seldom occurs at the local level. Gallagher (1988) has included program evaluation among the priorities he identifies as crucial for the continued improvement of gifted education, and determining the merits of various instruments as part of a comprehensive program evaluation is a need that is addressed through the use of SEGII.

Individuals and local school systems interested in evaluating and/or improving their current identification practices can contact the National Repository of Instruments of the NRC/GT for information and advice as to the reliability and validity of instruments and procedures through the comprehensive SEGII ratings conducted by the research staff of the NRC/GT. And, although another streamlined version of the SEGII specifically designed for local use is in preparation, educators may wish to use this instrument for purposes of either evaluating their local use of an instrument or for a guideline in the development of any new methods or procedures of identification.

III. Overview of Instrument Development

Content Validity of SEGII

A review of the literature was conducted to determine the most important standards or criteria that should be met by gifted identification instruments. The main sources consulted included Guidelines for Test Use (Brown, 1980), Standards for Educational and Psychological Testing (American Educational Research Association, American Psychological Association, National Council on Measurement in Education, 1985), Standards for Evaluations of Educational Programs, Projects, and Materials (Joint Committee on Standards for Educational Evaluation, 1981), and Principles of Educational and Psychological Measurement and Evaluation (Sax, 1989). The instrument was eventually based on models of instrument evaluation forms from the Evaluation Technologies Program of the Center for the Study of Education and the Humanizing Learning Program of Research for Better Schools, Inc. (Hoepfner, et al, 1972) which have demonstrated promise in providing a full and understandable assessment of the reliability and validity of an instrument.

From this review of the literature, a comprehensive three page instrument was constructed by project staff of the NRC/GT. Items or what are termed "criteria standards" were developed for five major areas of assessment: 1) Propriety Standards, 2) Respondent Appropriateness Standards, 3) Utility Standards, 4) Reliability Standards, and 5) Validity Standards. These standards are amplified in the descriptions presented below:

Identification Instrument Standards of SEGII.

1. **Propriety Standards.** The degree to which an instrument openly addresses fundamental ethical and professional considerations of testing and measurement is perhaps the most important indicator of the worthiness of an instrument. These standards which also include obligations and disclosure must be met by any instrument that is used for the purpose of psychological testing.

2. **Respondent Appropriateness Standards.** Ratings in this category are concerned with the suitability of an instrument for the individual that will either be assessed or will be involved in the completion of that instrument. Standards under this heading include the appropriateness of instructions, face validity, method of recording answers, format time/pacing, and justification/purpose.

3. **Utility Standards.** These standards are concerned with the more practical considerations involved in administering and using a test, including scope and time of administration, administrator training, manual quality, scoring procedures, guidelines for interpretation and decision making (including norming information), and political viability (the instrument's "acceptability" among professionals and interest groups).

4. **Reliability Standards.** Ratings for these standards are concerned with the extent to which the instrument is consistent, accurate, and repeatable in its operation and providing of information for any particular occasion that it is used. Internal consistency, equivalence, stability, and interrater reliability are examples of criteria standards included in this section.

5. **Validity Standards.** These standards are concerned with the presupposing question which underlies all other aspects of instrument validity: "How well does the instrument measure, for its intended respondent and purpose, the specific construct that it claims to represent?" Standards for assessment included here are content, construct, criterion, and gifted construct validity.

Each criterion standard or item for these major categories was written in the form of a paradigm or "best case scenario," with each standard to be rated by the following degree to which the instrument being assessed met that standard on a basis of "Excellent, "Good," "Fair," "Poor," or "Not Applicable." The possible rating responses are further described below:

RATING SCALE KEY

Excellent: The instrument meets all of the criteria standards.

Good: The instrument meets most of the described criteria standards.

Fair: The instrument meets some of the criteria standards, or some limited evidence or information is presented.

Poor: The instrument meets none of the criteria, or no supporting evidence is available.

Not Applicable: The criteria do not apply to the instrument.

As the SEGII criteria standards are relatively complex, where appropriate, additional guidelines and measurement rules of thumb were included in the criteria descriptions to aid raters in making more accurate judgements. In addition, a final section of the scale was provided for "General Rater Comments" in order to allow raters to include a brief summary of their overall impressions and recommendations concerning the instrument. It is hoped that any instrument will conform to all of the statements described in the scale. However, because of the difficulty involved in designing an instrument to provide a full and clear picture for all kinds of identification instruments (including non-standardized measures such as peer referrals), all kinds of respondents (eg. student, teacher, parent), and for various conceptions of giftedness, the response choice of "Not Applicable" was included in the case where a particular standard may not apply to a particular instrument. It should be noted that the "NA" response was rarely used by raters in the interrater reliability studies.

To further determine the content validity of SEGII, the instrument was submitted for formative evaluation on two occasions to a seven member panel of individuals in the combined fields of education of the gifted, special populations of students, and psychometrics from the University of Virginia with expertise in measurement and evaluation. The draft instrument was also submitted to two of the site directors of the NRC/GT for review. Each of these individuals were asked to carefully assess the content of the instrument for its comprehensiveness (including duplications and omissions), clarity, and utility and relevancy for its intended purpose. Suggestions received by these reviewers for each occasion were assessed and appropriate recommendations for revisions were incorporated into the final version of SEGII. During its construction, the SEGII underwent a total of ten formative revisions to improve its content before the draft version was submitted for analysis for its reliability.

Reliability of SEGII

Studies to establish interrater reliability were conducted on three separate occasions during the spring of 1991. A panel of ten raters participated, which included practicing teachers of the gifted, graduate students in educational psychology with previous experience in teaching gifted students, and PhDs in psychological measurement and gifted education. Average percentage of agreement of raters on all items was used to determine interrater reliability. These studies were conducted by assessing percentage agreement (PA) for: 1) the highest agreement on any one response choice for each item on the rating scale (Actual PA) and 2) the highest agreement on any two adjoining response choices for each item on the rating scale (PA Within Two). Three different instruments were rated: a teacher rating scale (the Scales for Rating the Behavioral Characteristics of Students; Renzulli et al, 1978), a newly developed non-traditional measure for artistic ability (Clark's Drawing Abilities Test; Clark, 1989), and a standardized instrument (Slosson Intelligence Test; Slosson, 1975).

In each rating trial, raters were given the instrument to be assessed and also published test reviews, and all available recent research pertaining to the reliability and validity of the instrument for purposes of basing their ratings. Raters were also asked to assess SEGII for its usability, clarity, and accuracy to improve instrument reliability and as a further check for its content validity. After trials one and two, there were 17 items that were found to cause the most difficulty in raters coming to agreement. The construction, presentation, and wording of these items were reevaluated because they represented one or both of two evidences of flaw: 1) a significant drop (approximately .2) in percentage agreement (actual or within two) from trial 1 to trial 2 and 2) a percentage agreement within two lower than .7 for either of trials one and two. After each rating trial, the panel of raters discussed problems with items and difficulty in using the scale and recommended specific improvements. The construction, content, and wording of these items was then reevaluated by project staff. Additional directions to assist raters were developed and included both on the rating scale form and in the manual. The items were modified or rewritten as necessary to improve their quality. One item, "Cost Effectiveness," was removed from the scale due to the inability to compensate for all of the variable related to the item in regard to use of instruments at the local level. Another item, "Gifted Construct Validity," was added in order to strengthen the validity section standards in terms of the valid use of an instrument in the context of a specific construct of giftedness as outlined by the authors of that instrument.

In all, there were two substantive revisions which occurred as a result of outcome feedback from discussion and analysis from the rating trials. The average percentage agreement for raters for the three trials is presented in Appendix G.

IV. Directions for Using the Scale for Evaluation of Gifted Identification Instruments

General Instructions

Before completing the scale, the rater first should consult all available sources of reliability/validity information and other reviews of the instrument included in the National Repository of Identification Instruments database for purposes of evaluating the instrument. The rater should also collect any pertinent information relating to reliability, validity, gifted conception, and program information if the instrument is being reviewed in the context of a local gifted program. Then, for each of the identification instrument standards included in this rating scale, the rater should check the space corresponding to the appropriate degree ("Excellent, Good, Fair, Poor, Not Applicable") to which the instrument meets that standard (SPECIAL NOTE: "Not Applicable" should only be used for rare instances when a standard may not apply due to the nature of the instrument). Please note that in the criteria standards described on the scale, the term "instrument manual" refers to the formal manual or any directions or other materials that may accompany the instrument. Finally, note that the term "instrument" always should be considered in a very broad sense, thereby including non-traditional identification practices such as auditions, portfolios, performance rating scales, etc... as well as traditional standardized paper and pencil methods of gifted identification.

At the local level, it is recommended that several individuals complete the scale in order to obtain a larger base of information for a more thorough assessment of the instrument in regard to its particular use. It is important to remember that the **Scale for the Evaluation of Gifted Identification Instruments** (see Appendix M) is not designed to issue an overall "score" for the instrument being rated. Rather, it is designed to provide a complete "report" and critical evaluation of an instrument to promote a fuller understanding of the merits and shortcomings of that instrument in light of its use for purposes of identifying gifted and talented students.

Supplementary Instructions

1. Always make sure that you first review the instrument before completing the rating scale in order to gain a sense of the instrument's face validity, propriety, utility, and appropriateness.

2. Please note that "NA" should only be used for "not applicable" (eg. the criterion does not apply to the instrument). Sometimes a criterion may not apply to an instrument (eg. parallel forms are not furnished by the instrument, hence **equivalence reliability (II.2)** receives a "NA") but in most cases we want all of the criteria in the scale to be addressed by the instrument rated. For an objectively scored instrument, inter/intra-rater reliability (II.4) does not apply. If the instrument is scored on a subjective scale, inter/intra-rater reliability should be provided. If desired information for a criterion is not given by the instrument, then "POOR" should be checked.

3. When answering the **Reliability Standards (II)** and **Validity Standards (I)** sections of the scale, the rater should remember the purpose and recommended use of the instrument as well as the nature of the instrument itself (particularly as it relates to its stated construct). What the instrument claims to be and to do has a direct influence upon how the authors attempt to establish its credibility. For example, if the test is intended for use as a predictive instrument, then there should be some evidence of **predictive criterion validity (I.3.b)**. And, if the test claims to be different than other tests, it should substantiate this by evidence for **discriminant construct validity (I.2.b)**. **(Convergent construct validity (I.2.c)** is seen when the instrument intends to measure the same domain or construct as other tests, but does so by a different method). Range of Coverage (II.6) looks at ceiling effects -- the test should have a high enough ceiling to avoid clustering all gifted students at the top of the scale. Please also be aware that instrument developers alternately use a discriminant or a convergent approach to prove their points. Always check and see if you understand the criterion used by the authors to establish the instrument's validity and how the authors are comparing their instrument to the criterion.

4. When completing the **Ethical/Professional** standards criterion **(III.1)** raters should approach the item by thinking, "What does the instrument say that it is going to do, and how well does it inform the reader as to how it will openly and accurately carry out its claims?"

5. Please note for the **Respondent Appropriateness Standards** (IV) that the **Justification/Purpose, Instructions, Format, and Time/Pacing** standards **(IV.1,.3,.4,.5)** and criteria all involve "judgement call" responses, and may represent a source of rater bias in the scale. It is therefore very important to keep in mind the instrument's intended respondent (parent, teacher, little gippers, teens, etc...) when completing these items (basically all of parts I and II of the scale) in order to provide the most accurate assessments. All raters should consider the extent to which the instrument "matches" with the respondents for such items.

6. A source of bias inherent in the **Utility Standards** section (V) of the SEGII is the pronounced emphasis on the **efficiency** of the use of an instrument. For example, throughout the construction of this section, items were designed with the assumption that the local gifted teacher is the most efficient (if not always effective) individual to perform the administration (**Utility Standard 2.a**) and interpretation (**Utility Standard 4.a**) of a given instrument (as opposed to having to rely on a licensed psychologist for administering an instrument or on a special scoring service to obtain information). Further, in terms of group size (**Utility Standard 2.b**) and length of time required to use the instrument (**Utility Standard 2.c**), it is assumed that large group evaluation and minimal time of instrument administration are appropriate standards for the highest rating responses. Extended directions for performing ratings on items such as these are provided in the criterion standards of the instrument.

7. Again, the rater should consider the intended respondent audience when answering **Utility Standards** for **Audience Identification, Group Size, and Time (V.1, 2.b, & 2.)c**. This data should be clearly stated in the instrument manual.

Special Notes: Remember when completing the SEGII that all criteria descriptors are "best case scenarios" for an instrument, and that a paradigm for a gifted identification instrument is not only unavailable, but is conceptually untenable.

Appendix D

Scale for the Evaluation of Gifted Identification Instruments (*SEGII*) Form

SCALE FOR THE EVALUATION OF GIFTED IDENTIFICATION INSTRUMENTS

Instrument Reviewed: Torrance Test of Creative Thinking: Figural

Review Requested By:

Date of Request:

Gifted Construct: general intellectual ability

Suggested Use: screening creative students

For the above construct and use, this instrument's ratings for validity and reliability are

Validity: poor

Reliability:

Cautions and comments about this instrument:

SCALE FOR THE EVALUATION OF GIFTED IDENTIFICATION INSTRUMENTS (SEGII)

Instrument Name: Torrance Test of Creative Thinking: Figural

Age groups: K - adult

Implied/implicit definition of construct measured:

general intellectual ability

Suggested use: screening creative students

Reviewed for: general intellectual ability

RATING SCALE KEY:

EXCELLENT: The instrument meets all of the criteria standards.

GOOD: The instrument meets most of the described criteria.

FAIR: The instrument meets some of the criteria, or some limited evidence or information is presented.

POOR: The instrument meets none of the criteria, or no supporting evidence is available.

NOT APPLICABLE: Criteria do not apply to the instrument.

DIRECTIONS: The rater first should consult all available sources of reliability/validity information and other reviews of the instrument included in the National Repository of Identification Instruments database for purposes of evaluating the instrument. Then, for each of the identification instrument standards included in this rating scale, the rater should circle the appropriate degree ("Not Applicable, Poor, Fair, Good, Excellent") to which the instrument meets that standard (SPECIAL NOTE: "Not Applicable" should only be used for rare instances when a standard may not apply due to the nature of the instrument). Please note that in the criteria standards described below, the term "instrument manual" refers to the formal manual or any directions or other materials that may accompany the instrument. Finally, note that the term "instrument" should be considered in a very broad sense, thereby including non-traditional identification practices such as auditions, portfolios, performance rating scales, etc... as well as traditional standardized paper and pencil methods of gifted identification.

IDENTIFICATION INSTRUMENT STANDARDS — RATING

Page 1: Validity Standards

I. VALIDITY STANDARDS. The rater should consult the instrument manual and published reviews for this section. The rater should consider the instrument's purpose and stated construct while completing all validity standards.

1. Content validity: poor

The instrument provides a clear definition of the universe represented and provides detailed evidence that the behavior domain was carefully sampled in instrument construction, including a detailed classification of test items by performance objectives along with an explanation of the selection procedures and/or references to special procedures.

2. Construct validity:

a. Experimental construct validity: poor

Statistical data is presented from a variety of empirical studies using analyses such as factor or correlational analysis, that provide strong support that the instrument accurately reflects the stated underlying construct.

b. Discriminant construct validity: poor

Empirical evidence demonstrates that the instrument measures something distinct from what is measured by other tests of similar format but different constructs. Further, the proposed interpretation of the construct is clearly stated in the manual and distinguished from other interpretations arising from other theories.

c. Convergent construct validity: poor

The instrument correlates more closely with other tests measuring the same construct using different methods than with tests measuring different constructs.

3. Criterion validity:

a. Concurrent criterion validity: poor

Scores on the instrument are related to performance on a separate task or criterion administered concomitantly. The manual also provides user information in terms of the appropriateness of generalizing from the validity information. A given coefficient should be $r=$ >. 70 for a rating of excellent (Good: $r=$ .70-.30; Fair: $r=$ < .30; Poor: not reported).

b. Predictive criterion validity: poor

Evidence is provided in support of the predictive nature of the instrument for students, such as by scores/performance on the instrument related to performance on separate task or criterion administered well after the instrument is used. A given coefficient should be $r=$ > . 50 with a criterion relevant interval of at least two months for a rating of excellent (Good: $r=$ .30-.50; Fair: $r=$ < .30; Poor: not reported).

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Validity Standards (cont) RATING

4. Gifted Construct Validity:

Supportive data or other evidence for justification is provided which supports the particular use of the instrument to measure the existence of the construct of psychological traits, abilities, or attributes as originally defined and intended by the authors of the instrument. The instrument is used in this instance in the context of the gifted conceptions checked below:

_General I Q _Psychosocial _Multiple Intelligences _Multiple Talent _USOE __Three-Ring _Structure of Intellect _Information Processing _Other:_

IF YOU HAVE JUDGED THE INSTRUMENT TO BE INVALID FOR THE CONSTRUCT MEASURED, DO NOT CONTINUE RATING THE INSTRUMENT.

Reliability Standards RATING

II. RELIABILITY STANDARDS. The rater should consult the instrument manual and published reviews to complete this section. All instruments must provide appropriate reliability evidence according to their format.

1. **Internal consistency reliability:**
The homogenous, consistent quality of the content of instrument items is evidenced by an appropriate reliability indicator such as split-half, Kuder-Richardson, or alpha coefficients. This reliability coefficient should be greater than .90 for a rating of excellent (Good: r= .70-.90; Fair: r= <.70; Poor: not reported).
2. **Equivalence reliability:**
Alternate form reliability is demonstrated by correlational data between scores on two comparable or parallel forms administered to the same group of examinees at essentially the same time. This reliability coefficient should be greater than .90 for a rating of excellent (Good: r= .70-.90; Fair: r= <.70; Poor: not reported).
3. **Test-retest stability reliability:**
Supporting evidence is provided for the stability of test scores over a period of time, by correlations on test scores obtained by the same groups of examinees on two occasions at least one month apart. For achievement or aptitude instruments, this reliability coefficient should be greater than .90 for a rating of excellent (Good: r= .70-.90; Fair: r= < .70; Poor: not reported). For affective and behavioral measures, this reliability coefficient should be greater than .70 for a rating of excellent (Good: r= .50-.70; Fair: r=.20-.50; Poor: not reported).
4. **Intra/Interrater Reliability:**
A high level of confidence for the objectivity and consistency of raters in scoring the instrument (when applicable) is demonstrated by such means as reported correlations, percentage of agreement, or analysis of variance. A correlation greater than .90 is considered the standard for a rating of excellent (Good: r=.80-.90; Fair: r=<.80; Poor: not reported).
5. **Replicability:**
Well-defined and controlled test procedures and conditions are described such that normative data is well established and the instrument is effectively standardized and useful in order for the user to achieve duplication of test results.
6. **Range of coverage:**
A wide range of coverage for the distribution of scores is provided, enabling the raw scores to effectively differentiate among students at the upper end of the scale.
7. **Score graduation:**
The raw scores are converted into percentiles, Z-scores, T-scores, grade equivalents, stanines, or other common standard forms of reporting scores for purposes of interpretation.

IF YOU HAVE FOUND THAT THE INSTRUMENT IS NOT SUITABLY RELIABLE, DO NOT CONTINUE THE RATING.

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Propriety and Respondent Appropriateness Standards

RATING

III. PROPRIETY STANDARDS. The rater should review the instrument and the manual to respond to this section.
There must be some evidence presented in support of both of these propriety standards(Do not check "NA").

1. Ethical/professional:
The procedures used in administration, instrument content, and recommendations for action conform to accepted ethical assessment practices with due regard to the rights and welfare of those involved in the evaluation (as defined by **Standards for Educational and Psychological Testing**).

2. Obligations and disclosure:
The instrument manual states that parents or guardians of individuals to be assessed must be made aware of all aspects and conditions required by the instrument for administration and assessment and formally agree to these requirements in writing, if appropriate. The manual also encourages for an open, direct, and honest presentation of results to individuals assessed, including an explanation of the results.

IV. RESPONDENT APPROPRIATENESS STANDARDS. The rater should review the actual instrument for this section. The rater should assess these appropriateness standards based upon the instrument's intended audience. Evidence must be provided to address all of these standards (Do not check "NA").

1. Justification/purpose:
The purpose, intent, or recommended use of the instrument is explained to the respondent in an understandable and straightforward manner in the instructions/directions section.

2. Face validity:
All test items are judged to be appropriate, unambiguous, and suitable for intended respondents in terms of immediate comprehension and degrees of difficulty. Further, the subject matter represented by items is presented in an unbiased fashion that appears relevant and interesting for the respondents.

3. Instructions:
All instructions are easily understandable and appropriate for age of respondent in terms of readability, concepts, vocabulary, length, and function to properly prepare the respondent for the instrument. The instructions clearly state response form(s) and include sample items that illustrate the necessary skills and item format required for each range of tasks.

4. Format:
The visual format of the instrument is aesthetically well-constructed and easily understandable in terms of its overall organization, layout, print quality, use of illustrations, and consistency of presentation of all ranges of task items.

5. Time/pacing:
Adequate and appropriate time limits for responses in relation to the subject matter and grade level/age of intended respondents are provided by the instrument.

6. Recording answers:
The instrument response modes are simple, direct, easily accomplished, and appropriate for the subject matter and the grade level/age of intended respondents.

Utility Standards

V. UTILITY STANDARDS. The rater should review the instrument and manual for this section. For standards that include sub-items, raters should review and check sub-items before issuing an overall rating of these standards.

1. Audience Identification:
The instrument clearly states appropriate age or grade level of respondents and purpose for the identification of gifted students. This information must be presented (if none is given, check "Poor").

Grade level _ Age level _
Purpose in identifying gifted students _

2. Administration:

a. Training:
The instrument can be administered by one regular school staff individual and requires less than one hour of specific training and/or preparation. Administration of the instrument by a teacher or aide is considered the standard for a rating of excellent (Good: school counselor; Fair: licensed psychologist; Poor: no information).

b. Group size:
The instrument can be administered to large groups of students, providing for effective large scale evaluation. Evaluation of large groups of students (10 or more) is considered the standard for a rating of excellent (Good: Small group (2-10 students); Fair: individual administration necessary; Poor: not clear or not stated).

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c. **Time:**
The instrument requires an appropriate amount of time for ease of administration (and is organized to allow for appropriate breaks if needed) given the age level of the respondent. Completion time of 20 minutes or less is considered the standard for excellent (Good: 20-40 minutes; Fair: 1 to 2 hours; Poor: > 2 hours or not reported).

d. **Manual quality:**
The instrument manual is legible, well-organized, consistent, easy to use, and thorough in its directions for test administration so that the test user can duplicate procedures used in standardizing the test. The manual also provides comprehensive information in regard to purpose/uses of the instrument and reliability and validity data.

3. **Scoring:**

a. **Scoring ease:**
The instrument can be easily and objectively hand-scored or machine-scoring service is available.

_ May be hand-scored or machine-scored
_ Must be hand-scored _ Must be machine-scored

b. **Score conversion:**
A simple, one-step process of accurately converting raw scores to normed/interpreted scores is provided by use of clearly explained tables, graphs, or scoring keys.

c. **Report clarity and distribution:**
Examinee scores or performance are presented in clear and self-explanatory terms free of unnecessary jargon and are distributed in a timely fashion.

4. **Interpretation:**

a. **Evaluator training:**
The instrument can be directly and immediately interpreted by regular school personnel relative to a specified norm group or standard. The necessary qualifications for persons interpreting results and guidelines are explicitly stated in the test manual. Interpretation by teacher is considered the standard for a rating of excellent (Good: counselor input required; Fair: licensed psychologist input required; Poor: not clear or not stated).

b. **Norm range:**
Data is provided for purposes of interpretation indicating that the instrument has been normed on a broad range of educational ability or is applicable to groups falling at the upper end of the continuum.

c. **Norm timing:**
The norms for the instrument are current (within last five years). Date of norming:_

d. **Norm groups:**

_ Norms are provided for regular populations of students.
_ Norms are provided for gifted populations of students.
_ Norms are provided for special populations:
    _ handicapped
    _ economically disadvantaged
    _ minority: _ black _ Native American _ Asian _ Hispanic
_ No norms are provided.

5. **Evaluation:**
Explicit guidelines are described for using test results to make objective and valid assessments of student performance and to make defensible decisions in regard to placement, diagnosis, or selection of services for students.

6. **Political viability:**
The instrument is considered as an accepted means of identification of gifted students by various interest groups and professional education/measurement/evaluation associations.

Appendix E

Average Percentage Agreement for *SEGII* Interrater Reliability Trials

Average Percentage Agreement for SEGII Interrater Reliability Trials

ITEM	Actual PA			Adjacent		
	Test 1	Test 2	Test 3	Test 1	Test 2	Test 3
I. Validity Standards						
I.1 Content Validity	1.0	.5	.7	1.0	.8	1.0
I.2a Experimental Construct Validity	.57	.9	.5	.71	1.0	.8
I.2b Discriminant Construct Validity	.57	.4	.6	.86	.6	.8
I.2c Convergent Construct Validity	.86	.3	.5	.86	.6	.7
I.3a Concurrent Criterion Validity	.43	.7	.3	.71	1.0	.6
I.3b Predictive Criterion Validity	.29	.6	.4	.57	.6	.7
I.4 Gifted Construct Validity	.43	.6	.4	.71	1.0	.7
II. Reliability Standards						
II.1 Internal Consistency Reliability	.43	.4	.7	.57	.7	.9
II.2 Equivalence Reliability	.43	.4	.7	.86	.8	1.0
II.3 Test-retest/Stability Reliability	.71	.6	.5	1.0	1.0	.7
II.4 Intra/Inter-rater Reliability	.57	.3	.7	.71	.5	1.0
II.5 Replicability	.57	.5	.7	.86	.7	.9
II.6 Range of Coverage	.57	.4	.5	.86	.7	.8
II.7 Score Graduation	--	.6	.7	--	1.0	.9
III. Propriety Standards						
III.1 Ethical/Professional	.71	.5	.7	1.0	.7	.8
III.2 Obligations and Disclosure	.57	.9	.4	.86	.9	.7
IV. Respondent Appropriateness Standards						
IV.1 Justification/ Purpose	.71	.4	.4	.86	.5	.5
IV.2 Face Validity	.57	.5	.6	.71	.9	.9
IV.3 Instructions	.86	.4	.6	1.0	.8	.9
IV.4 Format	.71	.5	.5	1.0	.8	.6
IV.5 Time/Pacing	.43	.5	.5	.57	.9	.8

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ITEM	Actual PA			Adjacent		
	Test 1	Test 2	Test 3	Test 1	Test 2	Test 3
IV.6 Recording Answers	.86	.5	.6	1.0	.9	.8
V. Utility Standards						
V.1 Audience Identification	.43	.4	.4	.57	.7	.5
V.2a Administration: Training	.57	.6	.6	1.0	.8	1.0
V.2b Group Size	.29	.6	.9	.57	.9	1.0
V.2c Time	.29	.3	.7	.29	.6	1.0
V.2d Manual Quality	.43	.4	.5	.86	.7	.9
V.3a Scoring Ease	.57	.7	1.0	1.0	.9	1.0
V.3b Score Conversion	.71	.6	.4	1.0	1.0	.7
V.3c Report Clarity and Distribution	.43	.5	.4	.57	.8	.7
V.4a Evaluator Training	.43	.4	.5	.57	.8	.8
V.4b Norm Range	.43	.4	.6	.86	.7	.8
V.4c Norm Timing	.57	.5	.7	.86	.8	.7
V.4d Norm Groups	.57	.6	1.0	1.0	1.0	1.0
V.5 Evaluation	.43	.4	.5	.86	.8	.9
V.6 Political Viability	.57	.4	.7	.86	.4	.9
V.7 Cost Effectiveness	.57	.4	--	1.0	.7	--
Totals (All Raters)	.56	.50		.81	.78	

Note: Study one was performed on the Learning and Motivation Scales of SRBCSS (April 15, 1992), study two was performed on Clark's Drawing Abilities Test (May 20, 1992), and study three was performed on the Slosson Intelligence Test (June 21, 1991).

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Appendix F

Listing of Instruments Reviewed by Gifted Construct and Instrument

Listing of Instruments Reviewed by Gifted Construct and Instrument

SEGII
Index by Gifted Construct

Gifted Construct	Instrument Name	Age Group
Acting Ability	Cognitive Abilities Test SEGII (pp. 120-125)	Grades K - 12
	Gifted Evaluation Scale SEGII (pp. 527-533)	Elem. through High School
	G.I.F.T. SEGII (pp. 479-484)	Grades K - 6
	G.I.F.F.I. SEGII (pp. 608-614)	Grades 6 - 12
	Khatena-Torrance Creative Perception Inventory SEGII (pp. 727-733)	12 yrs. +
	SRBCSS - Dramatics Scale SEGII (pp. 1074-1079)	Not given
	Torrance Test of Creative Thinking SEGII (pp. 1246-1251)	K - Adult
	Watson-Glaser Critical Thinking Appraisal SEGII (pp. 1331-1336)	Grades 9 - Adult
Artistic Ability	Slossen Intelligence Test SEGII (pp. 1134-1175)	2 wks. +, 4 yrs. +
Clinically Significant Maladjustment	Self-Perception Inventory SEGII (pp. 1128-1133)	Not given
Creativity - Ideation	Children's Personality Questionnaire SEGII (pp. 95-100)	8 yrs. - 12 yrs.
	Cognitive Abilities Test SEGII (pp. 126-131)	Grades K - 12 (continued)

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Gifted Construct	Instrument Name	Age Group
Creativity - Ideation (continued)	Cornell Critical Thinking Tests SEGII (pp. 282-288)	High School
	Creativity Assessment Packet SEGII (pp. 307-309)	6 yrs. - 18 yrs.
	Developing Cognitive Abilities Test SEGII (pp. 324-329)	Grades 1-12
	Early School Personality Questionnaire SEGII (pp. 394-400)	6 yrs. - 8 yrs.
	G.I.F.T. SEGII (pp. 485-490)	Grades K - 6
	Gifted Evaluation Scale SEGII (pp. 534-540)	Elem. through High School
	G.I.F.F.I. SEGII (pp. 615-621)	Grades 6-12
	High School Personality Questionnaire SEGII (pp. 663-669)	12 yrs. - 18 yrs.
	Junior-Senior High School Personality Questionnaire SEGII (pp. 677-683)	12 yrs. - 18 yrs.
	Kaufman Assessment Battery for Children SEGII (pp. 691-697)	2.5 yrs. - 12.5 yrs.
	Matrix Analogies Test SEGII (pp. 792-797)	5 yrs. - 17 yrs.
	SRBCSS - Creativity Characteristics Scale SEGII (pp. 1043-1049)	Not given
	Screening Assessment for Gifted Elementary Students SEGII (pp. 1086-1091)	7 yrs. - 12 yrs.
	Structure of Intellect SEGII (pp. 1230-1232)	7 yrs. - Adult

Gifted Construct	Instrument Name	Age Group
Creativity - Ideation (continued)	Torrance Test of Creative Thinking SEGII (pp. 1252-1258)	K - Adult
	Watson - Glaser Critical Thinking Appraisal SEGII (pp. 1343-1348)	Grades 9 - Adult
	WISC - R SEGII (pp. 1476-1482)	6 yrs. - 16 yrs.
Creativity - Problem Solving	Cornell Critical Thinking Tests SEGII (pp. 289-294)	High School
	Creativity Assessment Packet SEGII (pp. 310-315)	6 yrs. - 18 yrs.
	Developing Cognitive Abilities Test SEGII (pp. 330-335)	Grades 1-12
	G.I.F.T. SEGII (pp. 491-496)	Elementary
	G.I.F.F.I. SEGII (pp. 622-628)	Grades 6-12
	Kaufman Assessment Battery for Children SEGII (pp. 698-704)	2.5 yrs. - 12.5 yrs.
	SRBCSS - Creativity Characteristics Scale SEGII (pp. 1050-1055)	Not given
	Torrance Test of Creative Thinking SEGII (pp. 1259-1264)	K - Adult
	Watson-Glaser Critical Thinking Appraisal SEGII (pp. 1349-1354)	Grades 9 - Adult
	WISC - R SEGII (pp. 1483-1489)	6 yrs. - 16 yrs.

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Gifted Construct	Instrument Name	Age Group
Creativity - Products	Biographical Inventory SEGII (pp. 43-48)	12 yrs. - 21 yrs
	Cognitive Abilities Test SEGII (pp. 132-137)	Grades K - 12
	G.I.F.F.I. SEGII (pp. 629-635)	Grades 6 - 12
	SRBCSS - Creativity Characteristics Scale SEGII (pp. 1056-1061)	Not given
	Torrance Test of Creative Thinking SEGII (pp. 1265-1270)	K - Adult
	Watson-Glaser Critical Thinking Appraisal SEGII (pp. 1355-1360)	Grades 9 - Adult
	WISC - R SEGII (pp. 1490-1496)	6 yrs. - 16 yrs.
Creativity - Traits and Behaviors	Cornell Critical Thinking Tests SEGII (pp. 295-300)	High School
	G.I.F.T. SEGII (pp. 497-502)	Elementary
	Khatena-Torrance Creative Perception Inventory SEGII (pp. 734-740)	10 yrs. - Adult
	SRBCSS - Creativity Characteristics Scale SEGII (pp. 1062-1067)	Not given
	Watson-Glaser Critical Thinking Appraisal SEGII (pp. 1361-1366)	Grades 9 - Adult

Gifted Construct	Instrument Name	Age Group
Creativity - General	Alpha Biographical Inventory SEGII (pp. 1-6)	Grades 9-12
	Barron-Welsh Art Scale SEGII (pp. 25-30)	3 yrs. - Adult
	Biographical Inventory SEGII (pp. 37-42)	12 yrs. - 21 yrs.
	Christenson-Guilford Fluency Test SEGII (pp. 107-113)	Grade 7 - Adult
	Eby Elementary Identification Instrument SEGII (pp. 408-428)	N/A
	Raven's Standard Matrices SEGII (pp. 971-976)	Not given
	SRBCSS - Creativity Characteristics Scale SEGII (pp. 1037-1042)	Not given
	Slossen Intelligence Test SEGII (pp. 1140-1145)	2 wks. +, 4 yrs. +
	Watson-Glaser Critical Thinking Appraisal SEGII (pp. 1337-1342)	Grades 9 - Adult
Dance Ability	Cognitive Abilities Test SEGII (pp. 138-143)	Grades K - 12
	Khatena-Torrance Creative Perception Inventory SEGII (pp. 741-747)	12 yrs. +
	SRBCSS - Artistic SEGII (pp. 1013-1018)	Not given
	Torrance Test of Creative Thinking SEGII (pp. 1271-1276)	K - Adult
	Watson-Glaser Critical Thinking Appraisal SEGII (pp. 1374-1379)	Grade 9 - Adult

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Gifted Construct	Instrument Name	Age Group
General Academic Ability	Alpha Biographical Inventory SEGII (pp. 7-12)	Grades K - 12
	Boehm Test of Basic Concepts K-2 SEGII (pp. 55-61)	Grades K - 2
	Brigance Diagnostic Inventory of Basic Skills SEGII (pp. 62-67)	Grades K - 6
	California Achievement Test SEGII (pp. 68-73)	Grades K - 12
	Cognitive Abilities Test SEGII (pp. 144-149)	Grades K - 12
	Comprehensive Test of Basic Skills SEGII (pp. 235-241)	N/A
	Developing Cognitive Abilities Test SEGII (pp. 336-341)	Grades 1 - 12
	Early School Assessment SEGII (pp. 379-386)	4 yrs. - 6 yrs.
	Educational Development Series SEGII (pp. 429-436)	Grades K - 12
	Gates - MacGinite SEGII (pp. 465-471)	Grades K - 12
	Gifted Evaluation Scale SEGII (pp. 541-547)	Elem. through High School
	Kaufman Assessment Battery for Children SEGII (pp. 705-711)	2.5 yrs. - 12.5 yrs.
	National Educational Development Test SEGII (pp. 816-821)	Grades 9 - 10
	Peabody Individual Achievement Test (PIAT)-R SEGII (pp. 864-869)	Grades K - 12

Gifted Construct	Instrument Name	Age Group
General Academic Ability (continued)	Raven's Advanced Progressive Matrices SEGII (pp. 935-940)	Not given
	Raven's Colored Progressive Matrices SEGII (pp. 947-952)	Grades K - 2
	Raven's Standard Progressive Matrices SEGII (pp. pp. 995-1000)	6 - 12
	Slossen Oral Reading Test SEGII (pp. 1176-1181)	Primer - Adult
	Watson-Glaser Critical Thinking Appraisal SEGII (pp. 1380-1385)	Grades 9 - Adult
	Woodcock Reading Mastery Test SEGII (pp. 1548-1553)	Grades K - 12
General Intellectual Ability	California Achievement Test SEGII (pp. 74-76)	Grades K - 12
	Cognitive Abilities Test SEGII (pp. 150-156)	Grades K - 12
	Comprehensive Test of Basic Skills SEGII (pp. 242-248)	N/A
	Cornell Critical Thinking Tests SEGII (pp. 301-306)	N/A
	Detroit Test of Learning Aptitude SEGII (pp. 316-323)	6 yrs. - 18 yrs.
	Developing Cognitive Abilities Test SEGII (pp. 342-347)	Grades 1 - 12

Gifted Construct	Instrument Name	Age Group
General Intellectual Ability (continued)	Educational Development Series SEGII (pp. 437-443)	Grades K - 12
	G.I.F.T. SEGII (pp. 503-508)	Elementary
	Gifted Evaluation Scale SEGII (pp. 548-554)	Not given
	Goodenough - Harris Drawing Test SEGII (pp. 602-607)	2nd grade
	Kaufman Assessment Battery for Children SEGII (pp. 712-719)	2.5 yrs. - 12.5 yrs.
	Kingore Observation Inventory SEGII (pp. 755-761)	Grades K - 3
	Krantz Talent Identification Instrument SEGII (pp. 768-770)	Grades 3 - 8
	Kuhlman - Anderson Tests SEGII (pp. 771-777)	Grades K - 12
	Leiter International Performance Scale SEGII (pp. 785-791)	2 yrs. - 18 yrs.
	Matrix Analogies Test SEGII (pp. 798-803)	Grades K - 12, 5 yrs. - 17 yrs.
	National Educational Development Test SEGII (pp. 822-827)	Grades 9 - 10
	Nelson-Denny Reading Test SEGII (pp. 840-845)	Grades 9 - 12 and Adult

Gifted Construct	Instrument Name	Age Group
General Intellectual Ability (continued)	Peabody Individual Achievement Test (PIAT)-R SEGII (pp. 870-875)	Grades K - 12
	Peabody Picture Vocabulary Test - Revised SEGII (pp. 888-891)	2.5 yrs. - 40 yrs.
	Raven's Advanced Progressive Matrices SEGII (pp. 941-946)	Not given
	WISC - R SEGII (pp. 1507-1516)	6 yrs. - 16 yrs.
	WISC - III SEGII (pp. 1531-1539)	6 yrs. - 16 yrs., 11 mos.
	Woodcock Reading Mastery Test - Revised SEGII (pp. 1554-1559)	Grades K - 12
General Intelligence	Krantz Talent Identification Instrument SEGII (pp. 762-767)	Grades 3 - 8
General Intelligence only when used with Vocabulary Test	Raven's Standard Progressive Matrices SEGII (pp. 1001 - 1006)	Grades K - 12
Information Processing	Cognitive Abilities Test SEGII (pp. 157-162)	Grades K - 12
Inter/Intra-personal Ability/Leadership/Psychosocial Ability	Alpha Biographical Inventory SEGII (pp. 13-18)	Grades 9 - 12
	Gifted Evaluation Scale SEGII (pp. 555-561)	Elem. through High School
	Leadership Skills Inventory SEGII (pp. 778-784)	Grades 4 - 12
	Offer Self-Image Questionnaire SEGII (pp. 858-863)	13 yrs. - 19 yrs.
	Personality Research Form - 3rd ed. SEGII (pp. 898-903)	Grade 6 - Adult

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Gifted Construct	Instrument Name	Age Group
Inter/Intra-personal Ability/Leadership/Psychosocial Ability (continued)	Self Concept & Motivation Inventory (SCAMIN) "What Face Would You Wear?" SEGII (pp. 1116-1121)	Age 4 - Grade 12
	Slossen Intelligence Test SEGII (pp. 1152-1157)	2 wks. +, 4 yrs. +
Math/Logical Ability	Biographical Inventory SEGII (pp. 49-54)	12 yrs. - 21 yrs.
	California Achievement Test SEGII (pp. 77-82)	Grades K - 12
	Cognitive Abilities Test SEGII (pp. 163-168)	Grades K - 12
	Comprehensive Test of Basic Skills SEGII (pp. 249-255)	N/A
	Developing Cognitive Abilities Test SEGII (pp. 348-353)	Grades 1 - 12
	Early School Assessment SEGII (pp. 387-393)	4 yrs. - 6 yrs.
	Educational Development Series SEGII (pp. 444-450)	Grades K - 12
	Keymath Diagnostic Arithmetic Test (1976 version) SEGII (pp. 720-726)	Pre-school - 6th grade
	National Educational Development Test SEGII (pp. 828-833)	Grades 9 - 10
	Orleans - Hanna Algebra Prognosis Test SEGII (pp. 852-857)	Grades 7 - 8
	Peabody Individual Achievement Test SEGII (pp. 876-881)	Grades K - 12

Gifted Construct	Instrument Name	Age Group
Math/Logical Ability (continued)	Raven's Standard Matrices SEGII (pp. 977-982)	Not given
	Slossen Intelligence Test SEGII (pp. 1158-1163)	2 wks. +, 4 yrs. +
	Slossen Oral Reading Test - Revised SEGII (pp. 1188-1193)	Primer - High School
	Stanford - Binet Intelligence Scale - 4th ed.	2 yrs. - Adult
	Structure of Intellect [Math; Form M] SEGII (pp. 1233-1235)	7 yrs. - Adult
	Watson - Glaser Critical Thinking Appraisal SEGII (pp. 1392-1397)	Grades 9 - Adult
	WISC - R SEGII (pp. 1517-1523)	6 yrs. - 16 yrs.
	Woodcock Reading Mastery Test - Rev. SEGII (pp. 1560-1565)	Grades K - 12
Music Ability - Composition	Cognitive Abilities Test SEGII (pp. 169-174)	Grades K - 12
	Torrance Test of Creative Thinking SEGII (pp. 1289-1294)	K - Adult
	Watson - Glaser Critical Thinking Appraisal SEGII (pp. 1398-1403)	Grade 9 - Adult
Music Ability - Instrumental	Cognitive Abilities Test SEGII (pp. 169-174)	Grades K - 12
	Torrance Test of Creative Thinking SEGII (pp. 1283-1288)	K - Adult
	Watson - Glaser Critical Thinking Appraisal SEGII (pp. 1404-1409)	Grades 9 - Adult

Gifted Construct	Instrument Name	Age Group
Music Ability - Vocal	Cognitive Abilities Test SEGII (pp. 181-186)	Grades K - 12
	Gifted Evaluation Scale SEGII (pp. 562-568)	Elem. through High School
	Torrance Test of Creative Thinking SEGII (pp. 1295-1300)	K - Adult
	Watson - Glaser Critical Thinking Appraisal SEGII (pp. 1410-1415)	Grade 9 - Adult
Music Ability - General	G.I.F.T. SEGII (pp. 509-514)	Elementary
	G.I.F.F.I. SEGII (pp. 643-649)	Grades 6 - 12
	Primary Measures of Music Audiation SEGII (pp. 928-934)	Grades K - 3
Other - Non-verbal Intelligence/Ability	Matrix Analogies Test SEGII (pp. 804-809)	5 yrs. - 17 yrs.
	Raven's Standard Progressive Matrices SEGII (pp. 1007-1012)	6 yrs. - 65 yrs.
Other - Perception/Judgment & Perceptive Reasoning	Myers - Briggs Type Indicator SEGII (pp. 810-815)	Grades 9 - 16 and Adults
	Raven's Colored Progressive Matrices SEGII (pp. 959-964)	Not given
Other Performing Arts Ability	Children's Personality Questionnaire SEGII (pp. 101-106)	8 yrs. - 12 yrs.
	Cognitive Abilities Test SEGII (pp. 187-192)	Grades K - 12

Gifted Construct	Instrument Name	Age Group
Other Performing Arts Ability (continued)	Early School Personality Questionnaire SEGII (pp. 401-407)	6 yrs. - 8 yrs.
	Gifted Evaluation Scale SEGII (pp. 576-582)	Elem. through High School
	High School Personality Questionnaire SEGII (pp. 670-676)	12 yrs. - 18 yrs.
	Khatena-Torrance Creative Perception Inventory SEGII (pp. 748-754)	12 yrs. +
	SRBCSS - Dramatics Scale SEGII (pp. 1080-1085)	Not given
	Watson - Glaser Critical Thinking Appraisal SEGII (pp. 1416-1421)	Grade 9 - Adult
Other - Problem Solving	Raven's Colored Progressive Matrices SEGII (pp. 965-970)	Grades K - 5
Other - Reading Comprehension	Gilmore Oral Reading Test SEGII (pp. 965-970)	Grades 1 - 8
Other Visual Arts Ability	Cognitive Abilities Test SEGII (pp. 193-198)	Grades K - 12
	Gifted Evaluation Scale SEGII (pp. 576-582)	Elem. through High School
	SRBCSS - Dramatics Scale SEGII (pp. 1080-1085)	Not given
	Torrance Test of Creative Thinking SEGII (pp. 1319-1324)	K - Adult
	Watson - Glaser Critical Thinking Appraisal SEGII (pp. 1422-1427)	Grade 9 - Adult

Gifted Construct	Instrument Name	Age Group
Painting/Drawing Ability	Barron - Welsh Art Scale SEGII (pp. 31-36)	3 yrs. - Adult
	Clark's Drawing Ability Test SEGII (pp. 114-119)	N/A
	Cognitive Abilities Test SEGII (pp. 199-204)	Grades K - 12
	G.I.F.T. SEGII (pp. 515-520)	Elem. grades K - 6
	Gifted Evaluation Scale SEGII (pp. 569-575)	Elem. through High School
	G.I.F.F.I. SEGII (pp. 650-656)	Grades K - 12
	SRBCSS - Artistic SEGII (pp. 1019-1024)	Not given
	Torrance Test of Creative Thinking SEGII (pp. 1301-1306)	K - Adult
	Watson - Glaser Critical Thinking Appraisal SEGII (pp. 1428-1433)	Grades 9 - Adult
Photographic Ability	Cognitive Abilities Test SEGII (pp. 205-210)	Grades K - 12
	SRBCSS - Artistic	Not given
	Torrance Test of Creative Thinking SEGII (pp. 1307-1312)	K - Adult
	Watson - Glaser Critical Thinking Appraisal SEGII (pp. 1434-1439)	Grades 9 - Adult
Psychomotor/Bodily - Kinesthetic Ability	Cognitive Abilities Test SEGII (pp. 211-216)	Grades K - 12

Gifted Construct	Instrument Name	Age Group
Science Ability/Scientific Aptitude	California Achievement Test SEGII (pp. 83-85)	Grades K - 12
	Cognitive Abilities Test SEGII (pp. 217-222)	Grades K - 12
	Comprehensive Test of Basic Skills SEGII (pp. 256-262)	N/A
	Slossen Oral Reading Test - Revised SEGII (pp. 1194-1200)	Primer - Adult
	Watson - Glaser Critical Thinking Appraisal SEGII (pp. 1440-1445)	Grades 9 - Adult
	Woodcock Reading Mastery Test - Revised SEGII (pp. 1566-1571)	Grades K - 12
Sculpting Ability	SRBCSS - Artistic SEGII (pp. 1031-1036)	Not given
	Torrance Test of Creative Thinking SEGII (pp. 1313-1318)	K - Adult
	Watson - Glaser Critical Thinking Appraisal SEGII (pp. 1446-1451)	Grades 9 - Adult
Social Science Ability	California Achievement Test SEGII (pp. 86-88)	Grades K - 12
	Cognitive Abilities Test SEGII (pp. 223-228)	Grades K - 12
	Comprehensive Test of Basic Skills SEGII (pp. 263-269)	N/A
	Slossen Intelligence Test SEGII (pp. 1164-1169)	2 wks. +, 4 yrs. +
	Slossen Oral Reading Test - Revised SEGII (pp. 1200-1205)	Primer - Adult

Gifted Construct	Instrument Name	Age Group
Social Science Ability (continued)	Watson - Glaser Critical Thinking Appraisal SEGII (pp. 1452-1457)	
	Woodcock Reading Mastery Test (Revised) SEGII (pp. 1572-1577)	Grades 9 - Adult
		Grades K - 12
Specific Academic Ability	Gifted Evaluation Scale SEGII (pp. 583-589)	Elem. through High School
	Guilford-Zimmerman Aptitude Survey (GZAS)	"For use with adolescents and young adults"
	Woodcock Reading Mastery Test - Revised SEGII (pp. 1578-1583)	Grades K - 12
Specific Intellectual Ability	G.I.F.T. SEGII (pp. 521-526)	Grades K - 6
	Watson - Glaser Critical Thinking Appraisal SEGII (pp. 1458-1463)	Grades 9 - Adult
Task Commitment/Motivation	Alpha Biographical Inventory SEGII (pp. 19-24)	Grades 9 - 12
	Eby Elementary Identification Instrument SEGII (pp. 422-428)	N/A
	Educational Development Series SEGII (pp. 451-457)	Grades K - 12
	Personality Research Form - 3rd edition SEGII (pp. 904-909)	Grade 6 - Adult
	Raven's Standard Matrices SEGII (pp. 983-988)	Not given

Gifted Construct	Instrument Name	Age Group
Task Commitment/Motivation (continued)	Screening Assessment for Gifted Elementary Students SEGII (pp. 1104-1109)	7 yrs. - 12 yrs.
	Self Concept & Motivation Inventory (SCAMIN) SEGII (pp. 1122-1127)	Age 4 - Grade 12
Verbal/Linguistic Ability	California Achievement Test SEGII (pp. 89-94)	K - 12
	Cognitive Abilities Test SEGII (pp. 229-234)	K - 12
	Comprehensive Test of Basic Skills SEGII (pp. 270-276)	N/A
	Developing Cognitive Abilities Test SEGII (pp. 354-359)	Grades 1 - 12
	Diagnostic Reading Scales (1981 edition) SEGII (pp. 366-372)	Grades 1 - 7, and "poor readers"
	Durrell Analysis of Reading Difficulty SEGII (pp. 373-378)	Grades 1 - 6
	Educational Development Series SEGII (pp. 458-464)	Grades K - 12
	Gates - MacGinite SEGII (pp. 472-478)	Grades K - 12
	Gilmore Oral Reading Test SEGII (pp. 596-601)	Grades 1 - 8
	National Educational Development Test SEGII (pp. 834-839)	Grades 9 - 10
	Nelson - Denny Reading Test SEGII (pp. 846-851)	Grades 9 - 16

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Gifted Construct	Instrument Name	Age Group
Verbal/Linguistic Ability (continued)	Peabody Individual Achievement Test SEGII (pp. 882-888)	Grades K - 12
	Peabody Picture Vocabulary Test - Revised SEGII (pp. 891-897)	2.5 yrs. - 40 yrs.
	Pimsleur Language Aptitude SEGII (pp. 922-927)	Grades 7 - 12
	Raven's Standard Matrices SEGII (pp. 989-994)	Not given
	Screening Assessment for Gifted Elementary Students SEGII (pp. 1110-1115)	7 yrs. - 12 yrs.
	Slossen Intelligence Test SEGII (pp. 1170-1175)	2 wks. +, 4 yrs. +
	Slossen Oral Reading Test (Revised) SEGII (pp. 1206-1211)	Primer - Adult
	Stanford - Binet Intelligence Scale, 4th ed. SEGII (pp. 1224-1229)	2 yrs. - Adult
	Structure of Intellect [form R, form RR - Reading Readiness/Reading and Writing - Specific Ability] SEGII (pp. 1236-1238)	7 yrs. - Adult
	Watson - Glaser Critical Thinking Appraisal SEGII (pp. 1464-1469)	Grades 9 - Adult
	WISC - R SEGII (pp. 1524-1530)	6 yrs. - 16 yrs.
	WISC - III SEGII (pp. 1540-1547)	6 yrs. - 16 yrs., 11 mos.
	Woodcock Reading Mastery Test - Revised SEGII (pp. 1584-1589)	Grades K - 12

Gifted Construct	Instrument Name	Age Group
Vocational/Educational/Practical Arts Ability	Personality Research Form - 3rd edition SEGII (pp. 910-915)	Grade 6 - Adult
	SRBCSS - Creativity Characteristics Scale SEGII (pp. 1068-1073)	Not given
	Watson - Glaser Critical Thinking Appraisal SEGII (pp. 1470-1475)	Grades 9 - Adult
Miscellaneous		
General Ability	Developmental Test of Visual - Motor Integration SEGII (pp. 360-365)	4 yrs. - 17 yrs. 11 mos.
	Eby Elementary Identification Instrument SEGII (pp. 415-421)	N/A
School Preparedness	Cooperative Preschool Inventory SEGII (pp. 277-282)	3 yrs. - 6 yrs.
Screening for Gifted/Talented Programs	Screening Assessment for Gifted Elementary Students SEGII (pp. 1098-1103)	7 yrs. - 12 yrs.

Instrument Name	Gifted Construct	Age Groups
Alpha Biographical Inventory SEGII (pp. 1-24)	Creativity - General SEGII (pp. 1-6)	14 yrs. - 18 yrs.
	General Academic Ability SEGII (pp. 7-12)	14 yrs. - 18 yrs.
	Inter/Intra Personal Ability/Leadership/Psycho-Social Ability SEGII (pp. 13-18)	14 yrs. - 18 yrs.
	Task Commitment/Motivation SEGII (pp. 19-24)	14 yrs. - 18 yrs.
Barron-Welsh Art Scale SEGII (pp. 25-36)	Creativity - General SEGII (pp. 25-30)	3 yrs. - adult
	Painting/Drawing Ability SEGII (pp. 31-36)	

Instrument Name	Gifted Construct	Age Groups
Biographical Inventory Creativity SEGII (pp. 37-54)	Creativity - General SEGII (pp. 37-42)	12 yrs. - adult
	Creativity - Products SEGII (pp. 43-48)	12 yrs. - adult
	Math/Logical Ability SEGII (pp. 49-54)	12 yrs. - adult
Boehm Test of Basic Concepts K-2 SEGII (pp. 55-61)	General Academic Ability SEGII (pp. 55-61)	5 yrs. - 8 yrs.
Brigance Diagnostic Inventory of Basic Skills SEGII (pp. 62-67)	General Academic Ability SEGII (pp. 62-67)	5 yrs. - 12 yrs.
California Achievement Test SEGII (pp. 68-94)	General Academic Ability SEGII (pp. 63-73)	5 yrs. - 18 yrs.
	General Intellectual Ability SEGII (pp. 74-76)	5 yrs. - 18 yrs.
	Math/Logical Ability SEGII (pp. 77-82)	5 yrs. - 18 yrs.
	Science Ability SEGII (pp. 83-85)	5 yrs. - 18 yrs. (continued)
California Achievement Test (cont.) SEGII (pp. 68-94)	Social Science Ability SEGII (pp. 86-88)	5 yrs. - 18 yrs.
	Verbal/Linguistic Ability SEGII (pp. 89-94)	5 yrs. - 18 yrs.
Childrens' Personality Questionnaire SEGII (pp. 95-106)	Creativity - Ideation SEGII (pp. 95-100)	8 yrs. - 12 yrs.
	Performing Arts Ability SEGII (pp. 101-106)	8 yrs. - 12 yrs.
Christenson-Guilford Fluency Test SEGII (pp. 107-113)	Creativity - General SEGII (pp. 107-113)	12 yrs. - adult
Clark's Drawing Ability SEGII (pp. 114-119)	Painting/Drawing Ability SEGII (pp.114-119)	N/A

Instrument Name	Gifted Construct	Age Groups
Cognitive Abilities Test SEGII (pp. 120-234)	Acting Ability SEGII (pp. 120-125)	5 yrs. - 18 yrs. for all Cognitive Abilities Test constructs
	Creativity - Ideation SEGII (pp. 126-131)	
	Creativity - Products SEGII (pp. 132-137)	
	Dance Ability SEGII (pp. 138-143)	
	General Academic Ability SEGII (pp. 144-149)	
	General Intellectual Ability SEGII (pp. 150-156)	
	Information Processing SEGII (pp. 157-162)	
	Math/Logical Ability SEGII (pp. 163-168)	
	Music Composition SEGII (pp. 169-174)	
	Music - Instrumental SEGII (pp. 175-180)	
	Music - Vocal SEGII (pp. 181-186)	(continued)

Instrument Name	Gifted Construct	Age Groups
Cognitive Abilities Test (continued) SEGII (pp. 120-234)	Other Performing Arts Ability SEGII (pp. 187-192)	
	Other Visual Arts Ability SEGII (pp. 193-198)	
	Painting/Drawing Ability SEGII (pp. 199-204)	
	Photographic Ability SEGII (pp. 205-210)	
	Psycho-Motor/Bodily Kinesthetic Ability SEGII (pp. 211-216)	
	Science Ability SEGII (pp. 217-222)	
	Social Science Ability SEGII (pp. 223-228)	
	Verbal/Linguistic Ability SEGII (pp. 229-234)	
Comprehensive Test of Basic Skills SEGII (pp. 235-276)	General Academic Ability SEGII (pp. 235-241)	N/A
	General Intellectual Ability SEGII (pp. 242-248)	N/A
	Math/Logical Ability SEGII (pp. 249-255)	N/A
	Science Ability SEGII (pp. 256-262)	N/A
	Social Studies Ability SEGII (pp. 263-269)	N/A
	Verbal/Linguistic Ability SEGII (pp. 270-276)	N/A
Cooperative Preschool Inventory SEGII (pp. 277-282)	N/A This instrument is used to assess school preparedness SEGII (pp. 277-282)	3 yrs. - 6 yrs

Instrument Name	Gifted Construct	Age Groups
Cornell Critical Thinking Tests SEGII (pp. 283-306)	Creativity - Ideation SEGII (pp. 283-288)	14 - 18 yrs.
	Creativity - Problem Solving SEGII (pp. 289-294)	14 - 18 yrs.
	Creativity - Traits and Behaviors SEGII (pp. 295-300)	14 - 18 yrs.
	General Intellectual Ability SEGII (pp. 301-306)	14 - 18 yrs.
Creativity Assessment Packet SEGII (pp. 307-315)	Creativity - Ideation SEGII (pp. 307-309)	6 yrs. - 18 yrs.
	Creativity - Problem Solving SEGII (pp. 340-315)	6 yrs. - 18 yrs.
Detroit Test of Learning Aptitude SEGII (pp. 316-323)	General Intellectual Ability SEGII (pp. 316-323)	6 yrs. - 18 yrs.
Developing Cognitive Abilities Test SEGII (pp. 324-359)	Creativity - Ideation SEGII (pp. 324-329)	6 yrs. - 18 yrs. for all Dev. Cognitive Abilities Test constructs
	Creativity - Problem Solving SEGII (pp. 330-335)	
	General Academic Ability SEGII (pp. 336-341)	
Developing Cognitive Abilities Test SEGII (pp. 324-359) (continued)	General Intellectual Ability SEGII (pp. 342-347)	
	Math/Logical Ability SEGII (pp. 348-353)	
	Verbal/Linguistic Ability SEGII (pp. 354-359)	
Developmental Test of Visual-Motor Integration SEGII (pp. 360-365)	General Ability SEGII (pp. 360-365)	4 yrs. - 17 yrs., 11 mos.
Diagnostic Reading Scales (1981 ed.) SEGII (pp. 366-372)	Verbal/Linguistic Ability SEGII (pp. 366-372)	6 yrs. - 13 yrs., and poor readers
Durell Analysis of Reading Difficulty SEGII (pp. 373-378)	Verbal/Linguistic Ability SEGII (pp. 373-378)	6 yrs. - 13 yrs.
Early School Assessment SEGII (pp. 379-393)	General Academic Ability SEGII (pp. 379-386)	4 yrs. - 6 yrs.
	Math Ability SEGII (pp. 387-393)	4 yrs. - 6 yrs.

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Instrument Name	Gifted Construct	Age Groups
Early School Personality Questionnaire SEGII (pp. 394-407)	Creativity - Ideation SEGII (pp. 394-400)	6 yrs. - 8 yrs.
	Performing Arts Ability SEGII (pp. 401-407)	6 yrs. - 8 yrs.
Eby Elementary Identification Instrument SEGII (pp. 408-428)	Creativity - General SEGII (pp. 408-414)	N/A
	General Ability SEGII (pp. 415-421)	N/A
	Task Commitment SEGII (pp. 422-428)	N/A
Educational Development Series SEGII (pp. 429-464)	General Academic Ability SEGII (pp. 429-436)	5 yrs. - 18 yrs. for all Educational Dev. Series constructs
	General Intellectual Ability SEGII (pp. 437-443)	
	Math/Logical Ability SEGII (pp. 444-450)	
	Task Commitment SEGII (pp. 451-457)	
	Verbal/Linguistic Ability SEGII (pp. 458-464)	
Gates-MacGinite SEGII (pp. 465-478)	General Academic Ability SEGII (pp. 465-471)	5 yrs. - 18 yrs.
	Verbal/Linguistic Ability SEGII (pp. 472-478)	5 yrs. - 18 yrs.
GIFT SEGII (pp. 479-526)	Acting Ability SEGII (pp. 479-484)	5 yrs. - 12 yrs. for all GIFT constructs
	Creativity–Ideation SEGII (pp. 485-490)	
	Creativity–Problem Solving SEGII (pp. 491-496)	
	Creativity–Traits and Behaviors SEGII (pp. 497-502)	

Instrument Name	Gifted Construct	Age Groups
GIFT (continued) SEGII (pp. 479-526)	General Intellectual Ability SEGII (pp. 503-508) Music Ability–General SEGII (pp. 509-514) Painting/Drawing Ability SEGII (pp. 515-520) Specific Intellectual Ability SEGII (pp. 521-526)	5 yrs. - 12 yrs. for all GIFT constructs
Gifted Evaluation Scale SEGII (pp. 527-589)	Acting Ability SEGII (pp. 527-533) Creativity–Ideation SEGII (pp. 534-540) General Academic Ability SEGII (pp. 541-547) General Intellectual Ability SEGII (pp. 548-554) Inter/Intra-personal Ability SEGII (pp. 555-561) Music Ability–Vocal SEGII (pp. 562-568) Painting/Drawing Ability SEGII (pp. 569-575) Performing/Visual Arts Ability SEGII (pp. 576-582) Specific Academic Ability SEGII (pp. 583-589)	5 yrs. - 18 yrs. for all Gifted Evaluation Scale constructs
Gilmore Oral Reading Test SEGII (pp. 590-601)	Other–Reading Comprehension SEGII (pp. 590-595)	6 yrs. - 14 yrs.
	Verbal/Linguistic Ability SEGII (pp. 596-601)	6 yrs. - 14 yrs.
Goodenough-Harris Drawing Test SEGII (pp. 602-607)	General Intellectual Ability SEGII (pp. 602-607)	7 yrs. - 8 yrs.

Instrument Name	Gifted Construct	Age Groups
Group Inventory for Finding Interests SEGII (pp. 608-656)	Acting Ability SEGII (pp. 608-614)	11 yrs. - 18 yrs. for all GIFFI constructs
	Creativity–Ideation SEGII (pp. 615-621)	
	Creativity–Problem Solving SEGII (pp. 622-628)	
	Creativity–Products SEGII (pp. 629-635)	
	General Intellectual Ability SEGII (pp. 636-642)	
	Music Ability–General SEGII (pp. 643-649)	
	Painting/Drawing Ability SEGII (pp. 650-656)	
Guilford-Zimmerman Aptitude Survey (GZAS) SEGII (pp. 657-662)	Specific Academic Ability SEGII (pp. 657-662)	"For use with Adolescents and Young Adults"
High School Personality Questionnaire SEGII (pp. 663-676)	Creativity–Ideation SEGII (pp. 663-669)	12 yrs.- 18 yrs.
	Performing Arts Ability SEGII (pp. 670-676)	12 yrs.- 18 yrs.
Junior-Senior High School Personality Questionnaire SEGII (pp. 677-690)	Creativity–Ideation SEGII (pp. 677-683)	12 yrs. - 18 yrs.
	Performing Arts Ability SEGII (pp. 684-690)	12 yrs. - 18 yrs.
Kaufman Assessment Battery for Children SEGII (pp. 691-719)	Creativity–Ideation SEGII (pp. 691-697)	2.5 yrs. - 12.5 yrs. for all Kaufman Battery constructs
	Creativity–Problem Solving SEGII (pp. 698-704)	
	General Academic Ability SEGII (pp. 705-711)	
	General Intellectual Ability SEGII (pp. 712-719)	
Keymath Diagnostic Arithmetic Test (1976 version) SEGII (pp. 720-726)	Math/Logical Ability SEGII (pp. 720-726)	4 yrs. - 12 yrs.

Instrument Name	Gifted Construct	Age Groups
Khatena - Torrance Creative Perception Inventory SEGII (pp. 727-754)	Acting Ability SEGII (pp. 727-733)	12 yrs. +
	Creativity–Traits and Behaviors SEGII (pp. 734-740)	10 yrs. - Adult
	Dance Ability SEGII (pp. 741-747)	12 yrs. +
	Other Performing Arts Ability SEGII (pp. 748-754)	12 yrs. +
Kingore Observation Inventory SEGII (pp. 755-761)	General Intellectual Ability SEGII (pp. 755-761)	5 yrs. - 9 yrs.
Krantz Talent Identification Instrument SEGII (pp. 762-770)	General Intelligence SEGII (pp. 762-767)	8 yrs. - 14 yrs.
	General Intellectual Ability SEGII (pp. 768-770)	8 yrs. - 14 yrs.
Kuhlman-Anderson Tests SEGII (pp. 771-777)	General Intellectual Ability SEGII (pp. 771-777)	5 yrs. - 18 yrs.
Leadership Skills Inventory SEGII (pp. 778-784)	Inter/Intra-personal Ability/Leadership SEGII (pp. 778-784)	9 yrs. - 18 yrs.
Leiter International Performance Scale SEGII (pp. 785-791)	General Intellectual Ability SEGII (pp. 785-791)	2 yrs. - 18 yrs.
Matrix Analogies Test SEGII (pp. 792-809)	Creativity–Ideation SEGII (pp. 792-797)	5 yrs. - 17 yrs.
	General Intellectual Ability SEGII (pp. 798-803)	5 yrs. - 17 yrs.
	Other-Non-verbal General Intelligence SEGII (pp. 804-809)	5 yrs. - 17 yrs.
Myers-Briggs Type Indicator SEGII (pp. 810-815)	Other-Perception/Judgment (Jung's Theory of Personality Type) SEGII (pp. 810-815)	14 yrs. - adult
National Educational Development Test SEGII (pp. 816-839)	General Academic Ability SEGII (pp. 816-821)	14 yrs. - 16 yrs. for all Nat'l. Ed. Dev. Test constructs
	General Intellectual Ability SEGII (pp. 822-827)	
	Math/Logical Ability SEGII (pp. 828-833)	
	Verbal/Linguistic Ability SEGII (pp. 834-839)	

-Instrument Name	Gifted Construct	Age Groups
Nelson-Denny Reading Test SEGII (pp. 840-851)	General Intellectual Ability SEGII (pp. 840-845)	14 yrs. - adult
	Verbal/Linguistic Ability SEGII (pp. 846-851)	14 yrs. - adult
Orleans-Hanna Algebra Prognosis Test SEGII (pp. 852-857)	Math/Logical Ability SEGII (pp. 852-857)	12 yrs. - 14 yrs.
Offer Self-Image Questionnaire SEGII (pp. 858-863).	Inter/Intra-personal Ability SEGII (pp. 858-863)	13 yrs. - 19 yrs.
Peabody Individual Achievement Test (PIAT)--Revised SEGII (pp. 864-888)	General Academic Ability SEGII (pp. 864-869)	5 yrs. - 18 yrs. for all PIAT--Rev. constructs
	General Intellectual Ability SEGII (pp. 870-875)	
	Math/Logical Ability SEGII (pp. 876-881)	
	Verbal/Linguistic Ability SEGII (pp. 882-888)	
Peabody Picture Vocabulary Test - Revised SEGII (pp. 888-897)	General Intellectual Ability SEGII (pp. 888-891)	2.5 yrs. - 40 yrs.
	Verbal/Linguistic Ability SEGII (pp. 892-897)	2.5 yrs. - 40 yrs.
Personality Research Form - 3rd edition SEGII (pp. 898-921)	Inter/Intra-personal Ability/Leadership/Psychosocial Ability SEGII (pp. 898-903)	11 yrs. - adult for all Personality Res. Form constructs
	Task Commitment/Motivation SEGII (pp. 904-909)	
	Vocational/Educational/Practical Arts Ability SEGII (pp. 910-915)	
	"Yields a set of scores for personality traits relevant to the functioning of individuals in a wide variety of situations" SEGII (pp. 916-921)	
Pimsleur Language Aptitude SEGII (pp. 922-927)	Verbal/Linguistic Abiity SEGII (pp. 922-927)	12 yrs. - 18 yrs.

Instrument Name	Gifted Construct	Age Groups
Primary Measures of Music Audiation SEGII (pp. 928-934)	Music Ability--General SEGII (pp. 928-934)	5 yrs. - 9 yrs.
Raven's Advances Progressive Matrices SEGII (pp. 935-946)	General Academic Ability SEGII (pp. 935-940)	Not given
	General Intellectual Ability SEGII (pp. 941-946)	Not given
Raven's Colored Progressive Matrices SEGII (pp. 947-970)	General Academic Ability SEGII (pp. 947-952)	5 yrs. - 8 yrs.
	General Intellectual Ability SEGII (pp. 953-958)	"Young Children"
	Other--Perceptive Reasoning SEGII (pp. 959-964)	Not given
	Other--Problem Solving SEGII (pp. 965-970)	5 yrs. - 11 yrs.
Raven's Standard Matrices SEGII (pp. 971-994)	Creativity--General SEGII (pp. 971-976)	Not given
	Math/Logical Ability SEGII (pp. 977-982)	Not given
	Task Commitment SEGII (pp. 983-988)	Not given
	Verbal/Linguistic Ability SEGII (pp. 989-994)	Not given
Raven's Standard Progressive Matrices SEGII (pp. 995-1012)	General Academic Ability SEGII (pp. 995-1000)	6 - 12
	"General Intelligence only when used with vocabulary test" SEGII (pp. 1001-1006)	5 yrs. - 18 yrs.
	Other--Non-verbal Ability SEGII (pp. 1007-1012)	6 yrs. - 65 yrs.
SRBCSS - Artistic SEGII (pp. 1013-1036)	Dance Ability SEGII (pp. 1013-1018)	Not given
	Painting/Drawing Ability SEGII (pp. 1019-1024)	Not given
	Photography Ability SEGII (pp. 1025-1030)	Not given
	Sculpting Ability SEGII (pp. 1031-1036)	Not given

Instrument Name	Gifted Construct	Age Groups
SRBCSS - Creativity Characteristics Scale SEGII (pp. 1037-1073)	Creativity–General SEGII (pp. 1037-1042)	Not given
	Creativity–Ideation SEGII (pp. 1043-1049)	Not given
	Creativity–Problem Solving SEGII (pp. 1050-1055)	Not given
	Creativity–Products SEGII (pp. 1056-1061)	Not given
	Creativity–Traits and Behaviors SEGII (pp. 1062-1067)	Not given
	Vocational Educational/Practical Arts SEGII (pp. 1068-1073)	Not given
SRBCSS - Dramatics Scale SEGII (pp. 1074-1085)	Acting Ability SEGII (pp. 1074-1079)	Not given
	Other Visual Performing Arts SEGII (pp. 1080-1085)	Not given
Screening Assessment for Gifted Elementary Students SEGII (pp. 1086-1115)	Creativity–Ideation SEGII (pp. 1086-1091)	7 yrs. - 12 yrs.
	General Intellectual Ability SEGII (pp. 1092-1097)	7 yrs. - 12 yrs.
	"Screening for Gifted/Talented Programs" SEGII (pp. 1098-1103)	7 yrs. - 12 yrs.
	Task Commitment/Motivation SEGII (pp. 1104-1109)	7 yrs. - 12 yrs.
	Verbal/Linguistic Ability SEGII (pp. 1110-1115)	7 yrs. - 12 yrs.
Self-Concept & Motivation Inventory (SCAMIN) "What Face Would You Wear" SEGII (pp. 1116-1127)	Inter/Intra-personal Ability/Leadership/Psychosocial Ability SEGII (pp. 1116-1121)	4 yrs. - 18 yrs.
	Task Commitment/Motivation SEGII (pp. 1122-1127)	4 yrs. - 18 yrs.
Self-Perception Inventory SEGII (pp. 1128-1133)	Clinically Significant Maladjustment SEGII (pp. 1128-1133)	Not given

Instrument Name	Gifted Construct	Age Groups
Slossen Intelligence Test SEGII (pp. 1134-1175)	Artistic SEGII (pp. 1134-1139)	2 wks. +, 4 yrs. + for all Slossen Intelligence Test constructs
	Creativity–General SEGII (pp. 1140-1145)	
	General Intellectual Ability SEGII (pp. 1146-1151)	
	Inter/Intra-personal Ability/Leadership SEGII (pp. 1152-1157)	
	Math/Logical Ability SEGII (pp. 1158-1163)	
	Social Science Aptitude SEGII (pp. 1164-1169)	
	Verbal/Linguistic Ability SEGII (pp. 1170-1175)	
Slossen Oral Reading Test - Revised SEGII (pp. 1176-1211)	General Academic Ability SEGII (pp. 1176-1181)	4 yrs. - Adult for all Slossen Oral Read. Test constructs
	General Intellectual Ability SEGII (pp. 1182-1187)	
	Math/Logical Ability SEGII (pp. 1188-1193)	
	Science Ability SEGII (pp. 1194-1199)	
	Social Science Ability SEGII (pp. 1200-1205)	
	Verbal/Linguistic Ability SEGII (pp. 1206-1211)	
Stanford-Binet Intelligence Scale, 4th edition SEGII (pp. 1212-1229)	Math/Logical Ability SEGII (pp. 1212-1217)	2 yrs. - Adult
	General Intellectual Ability SEGII (pp. 1218-1223)	2 yrs. - Adult
	Verbal/Linguistic Ability SEGII (pp. 1224-1229)	2 yrs. - Adult

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Instrument Name	Gifted Construct	Age Groups
Structure of Intellect SEGII (pp. 1230-1238)	Creativity–Ideation (Divergent Production Subtest) SEGII (pp. 1230-1232)	7 yrs. - Adult
	Math/Logical Ability [Math; Form M] SEGII (pp. 1233-1235)	7 yrs. - Adult
	Verbal/Linguistic Ability [Form R, Form RR] Reading Readiness/Reading & Writing–Specific Ability SEGII (pp. 1236-1238)	7 yrs. - Adult
Test of Non-verbal Intelligence SEGII (pp. 1239-1245)	General Intellectual Ability SEGII (pp. 1239-1245)	5 yrs. - 85 yrs.
Torrance Test of Creative Thinking SEGII (pp. 1246-1324)	Acting Ability SEGII (pp. 1246-1251)	5 yrs. - Adult for all Torrance Test of Creative Thinking constructs
	Creativity–Ideation SEGII (pp. 1252-1258)	
	Creativity–Problem Solving SEGII (pp. 1259-1264)	
	Creativity–Products SEGII (pp. 1265-1270)	
	Dance Ability SEGII (pp. 1271-1276)	
	General Intellectual Ability SEGII (pp. 1277-1282)	
	Music Ability–Instrumental SEGII (pp. 1283-1288)	
	Music Ability–Composition SEGII (pp. 1289-1294)	
	Music Performance–Voice SEGII (pp. 1295-1300)	

(continued)

Instrument Name	Gifted Construct	Age Groups
Torrance Test of Creative Thinking (continued) SEGII (pp. 1246-1324)	Painting/Drawing Ability SEGII (pp. 1301-1306) Photography Ability SEGII (pp. 1307-1312) Sculpting Ability SEGII (pp. 1313-1318) Visual Arts Ability SEGII (pp. 1319-1324)	5 yrs. - Adult for all Torrance Test of Creative Thinking constructs
Vinland Adaptive Behavior Scales SEGII (pp. 1325-1330)	General Intellectual Ability SEGII (pp. 1325-1330)	Birth - 19 yrs.
Watson-Glaser Critical Thinking Appraisal SEGII (pp. 1331-1475)	Acting Ability SEGII (pp. 1331-1336) Creativity–General SEGII (pp. 1337-1342) Creativity–Ideation SEGII (pp. 1343-1348) Creativity–Problem Solving SEGII (pp. 1349-1354) Creativity–Products SEGII (pp. 1355-1360) Creativity–Traits and Behaviors SEGII (pp. 1361-1366) Critical Thinking SEGII (pp. 1367-1373) Dance Ability SEGII (pp. 1374-1379) General Academic Ability SEGII (pp. 1380-1385) General Intellectual Ability SEGII (pp. 1386-1391) Math/Logical Ability SEGII (pp. 1392-1397)	14 yrs. - Adult for all Watson-Glaser Crit. Think. App. constructs (continued)

Instrument Name	Gifted Construct	Age Groups
Watson-Glaser Critical Thinking Appraisal (continued) SEGII (pp. 1331-1475)	Music Ability–Composition SEGII (pp. 1398-1403)	14 yrs. - Adult for all Watson-Glaser Crit. Think. App. constructs
	Music Performance--Instrumental SEGII (pp. 1404-1409)	
	Music Performance–Voice SEGII (pp. 1410-1415)	
	Other Performing Arts SEGII (pp. 1416-1421)	
	Other Visual Arts Ability SEGII (pp. 1422-1427)	
	Painting/Drawing Ability SEGII (pp. 1428-1433)	
	Photography Ability SEGII (pp. 1434-1439)	
	Science Ability SEGII (pp. 1434-1439)	
	Science Ability SEGII (pp. 1440-1445)	
	Sculpting Ability SEGII (pp. 1446-1451)	
	Social Studies Ability SEGII (pp. 1452-1457)	
	Specific Intellectual Abilities SEGII (pp. 1458-1463)	
	Verbal/Linguistic Ability SEGII (pp. 1464-1469)	
	Vocational Education Ability SEGII (pp. 1470-1475)	

Instrument Name	Gifted Construct	Age Groups
WISC-R SEGII (pp. 1476-1530)	Creativity–Ideation SEGII (pp. 1476-1482)	6 yrs. - 16 yrs. for all WISC-R constructs
	Creativity–Problem Solving SEGII (pp. 1483-1489)	
	Creativity–Products SEGII (pp. 1490-1496)	
	General Intellectual Ability SEGII (pp. 1497-1506) SEGII (pp. 1507-1516)	
	Math/Logical Ability SEGII (pp. 1517-1523)	
	Verbal/Linguistic Ability SEGII (pp. 1524-1530)	
WISC-III SEGII (pp. 1531-1547)	General Intellectual Ability SEGII (pp. 1531-1539)	6 yrs. - 16 yrs., 11 mos.
	Verbal/Linguistic Ability SEGII (pp. 1540-1547)	
Woodcock Reading Mastery Test - Revised SEGII (pp. 1548-1589)	General Academic Ability SEGII (pp. 1548-1553)	5 yrs. - 18 yrs. for all Woodcock Reading Mastery constructs
	General Intellectual Ability SEGII (pp. 1554-1559)	
	Math/Logical Ability SEGII (pp. 1560-1565)	
	Science Ability SEGII (pp. 1566-1571)	
	Social Science Ability SEGII (pp. 1572-1577)	
	Specific Academic Ability SEGII (pp. 1578-1583)	
	Verbal/Linguistic Ability SEGII (pp. 1584-1589)	

Appendix G

Peer Referral Form

Peer Referral Form

Teacher's Name______________________________

I'm going to ask you to think of your classmates in a different way than you usually do. Read the questions below and try to think of which child in your class fits best each question. Think of the boys and girls, quiet kids and noisy kids, best friends and those with whom you don't usually play. You may only put down one name for each question. You may leave a space blank. You can use the same name for more than one question. You may not use your teacher's name or names of other adults. Please use first and last names. You do not have to put your name down on this form, so you can be completely honest.

••

1. What boy OR girl learns quickly, but doesn't speak up in class very often?

   ____

2. What girl OR boy will get interested in a project, and spend extra time and take pride in his or her work?

   ____

3. What boy OR girl is smart in school, but doesn't show off about it?

   ____

4. What girl OR boy is really good at making up dances?

   ____

5. What boy OR girl is really good at making up games?

   ____

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6. What girl OR boy is really good at making up music?

____

7. What boy OR girl is really good at making up stories?

____

8. What girl OR boy is really good at making up pictures?

____

9. What boy OR girl would you ask first if you needed any kind of help at school?

____

10. What girl OR boy would you ask to come to your house to help you work on a project? (Pretend that there would be someone to drive that person to your house)

____

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